CyberView™

User Manual

Widescreen LCD Display - **19" and 22" Screen Sizes**

Rackmount Display:
MPW-19
MPW-22

1U Display Drawer:
MDW-19

4:3 LCD Display - **15"**, **17"**, **19" and 20" Screen Sizes**

Rackmount Display:

MP-15 / MP-17 / MP-19 / MP-20

SMP-17 / SMP-19 / SMP-20 (Designed to work with Sun)

1U Display Drawer:

MD-15 / MD-17 / MD-19 / MD-20

MDS-15 / MDS-17 / MDS-19 (Shallow Depth)

1U Display Drawer:

SMD-17 / SMD-19 / SMD-20

(Designed to work with Sun)

Optional:

- BNC + S-Video Input
- DVI Input
- Audio
- Touchscreen
- DC power
- Quad Display

Contents

Chapter 1 Getting Started

1.1 Important Safeguards.....1
1.2 Regulatory Notice.....2
1.3 Before Installation.....3
1.4 Unpacking.....3
1.5 Optional Accessories.....3
1.6 Peripheral Products.....4

Part 1 Widescreen LCD Display

Chapter 2 MPW-19 & MPW-22

2.1 Package Contents.....5
2.2 Structure Diagram.....6
2.3 Installation.....7-8
2.4 Connection.....9

Chapter 3 MDW-19

3.1 Package Contents.....10
3.2 Structure Diagram.....11
3.3 How to Install “One Man” Installation Slides.....12-13
3.4 How to Use the Slides.....14
3.5 Connection.....15

Chapter 4 Operation

4.1 On-Screen Display Operation.....16
4.2 On-Screen Menu.....17

Chapter 5 Optional Specification

5.1 DVI-D Option.....18
5.2 BNC + S-Video Option.....19
5.3 Audio Option.....20
5.4 Touchscreen Options.....21-22
5.5 Front NEMA / IP65 Option 23
5.6 Quad Display Option.....24
5.7 DC Power Options.....25

Part 2 4:3 LCD Display

Chapter 6 **MP-15, MP-17, MP-19 & MP-20**
SMP-17, SMP-19 & SMP-20

6.1 Package Contents....26
6.2 Structure Diagram....27
6.3 Installation....28-29
6.4 Connection....30

Chapter 7 **MD-20**
SMD-20
MD-15, MD-17 & MD-19
SMD-17 & SMD-19
MDS-15, MDS-17 & MDS-19

7.1 Package Contents....31
7.2 Structure Diagram....32
7.3 How to Install “One Man” Installation Slides....33-34
7.4 How to Use the Slides....35
7.5 Connection....36

Chapter 8 **Operation**

8.1 On-Screen Display Operation....37
8.2 On-Screen Menu....38

Chapter 9 **Optional Specification**

9.1 DVI-D Option....39
9.2 BNC + S-Video Option....40
9.3 Audio Option....41-42
9.4 Touchscreen Options....43-44
9.5 Front NEMA / IP65 Option....45
9.6 Quad Display Option....46
9.7 DC Power Options....47

Chapter 10 **LCD Specifications**....48-50

Chapter 11 **Troubleshooting**....51

Chapter 12 **Dimensions**....52-53

1.1 Important Safeguards

Chapter 1

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
  - ☐ Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
  - ☐ Repair or attempted repair by anyone not authorized by us.
  - ☐ Any damage of the product due to shipment.
  - ☐ Removal or installation of the product.
  - ☐ Causes external to the product, such as electric power fluctuation or failure.
  - ☐ Use of supplies or parts not meeting our specifications.
  - ☐ Normal wear and tear.
  - ☐ Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

1.2 Regulatory Notice

Legal Information

First English printing, October 2002
Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. We are not liable for any injury or loss that results from the use of this equipment.

Safety Instructions

- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40º Celsius (104º Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing damage to other equipment or injury to persons nearby.
- When the drawer is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labeled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being damaged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equip ment and invalidate its warranty.
- If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reposition or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

1.3 Before Installation

- It is very important to locate the Rackmount LCD Drawer / Display in a suitable environment.
- The surface for placing and fixing the Rackmount LCD Drawer / Display should be stable and level or mounted into a suitable cabinet.
- Make sure the place has good ventilation, is out of direct sunlight, away from sources of excessive dust, dirt, heat, water, moisture and vibration.
- Convenience for connecting the Rackmount LCD Drawer / Display to the related facilities should be well considered too.

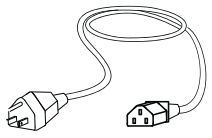
1.4 Unpacking

The Rackmount LCD Drawer / Display comes with the standard parts shown on the package contents. Check and make sure they are included and in good condition. If anything is missing, or damage, contact the supplier immediately.

1.5 Optional Accessories

1. Power Cord

1.1 IEC power cord
1.2 NEMA 5-15 power cord (US)
1.3 BS 1363 power cord (UK)
1.4 CEE 7/4 power cord (German)
1.5 AS 3112 power cord (Australia)



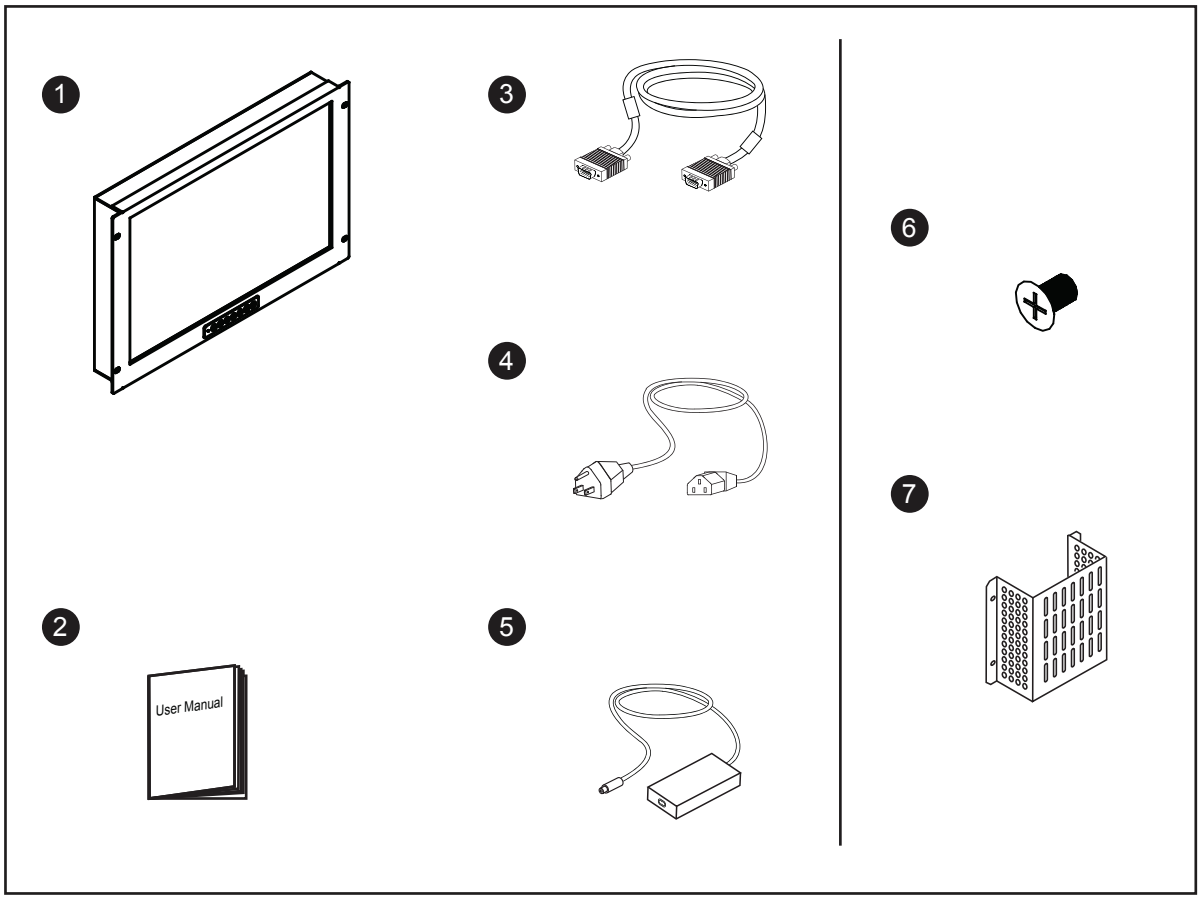
1.6 Peripheral Products (Keyboard Models)

Item	Model No.	Description
Matrix Cat 6 KVM	16-Cat6-M2X / M3X / M4X 16-Cat6-M3X-IP / M4X-IP / M4X-2IP 16-Cat6-M2X / M3X / M4X 16-Cat6-M3X-IP / M4X-IP / M4X-2IP	Matrix Cat 6 16-Port KVM Matrix IP Cat 6 16-Port KVM Matrix Cat 6 32-Port KVM Matrix IP Cat 6 32-Port KVM
Matrix DB-15 KVM	8-M2X / M3X / M4X 8-M3X-IP / M4X-IP / M4X-2IP 16-M2X / M3X / M4X 16-M3X-IP / M4X-IP / M4X-2IP	Matrix DB-15 8-Port KVM Matrix IP DB-15 8-Port KVM Matrix DB-15 16-Port KVM Matrix IP DB-15 16-Port KVM
Combo Cat 6 KVM	8-Cat6 / 8-Cat6-2X / 8-Cat6-IP 16-Cat6 / 16-Cat6-2X / 16-Cat6-IP 32-Cat6 / 32-Cat6-2X / 32-Cat6-IP	Combo Cat 6 8-Port KVM Combo Cat 6 16-Port KVM Combo Cat 6 32-Port KVM
Combo DB-15 KVM	8-USB / 8-2X / 8-IP 16-USB / 16-2X / 16-IP	Combo DB-15 8-Port KVM Combo DB-15 16-Port KVM
PS/2 DB-15 KVM	4 / 8 / 16	4 / 8 / 16 Port PS/2 DB-15 KVM
Keyboard Drawer	KD1 KD2	Rackmount Keyboard Drawer (With KVM Options) Rackmount Keyboard Drawer (Short Depth)

2.1 Package Contents

Chapter 2

MPW-19 & MPW-22



① Rackmount LCD display x 1 pc

② User manual (As of Sept 2011, all user manuals will be download-only. Physical copies are available upon request)

③ 6’ VGA cable (male to male) x 1 pc

④ Power cord x 1 pc

⑤ Auto switch power adapter x 1 pc

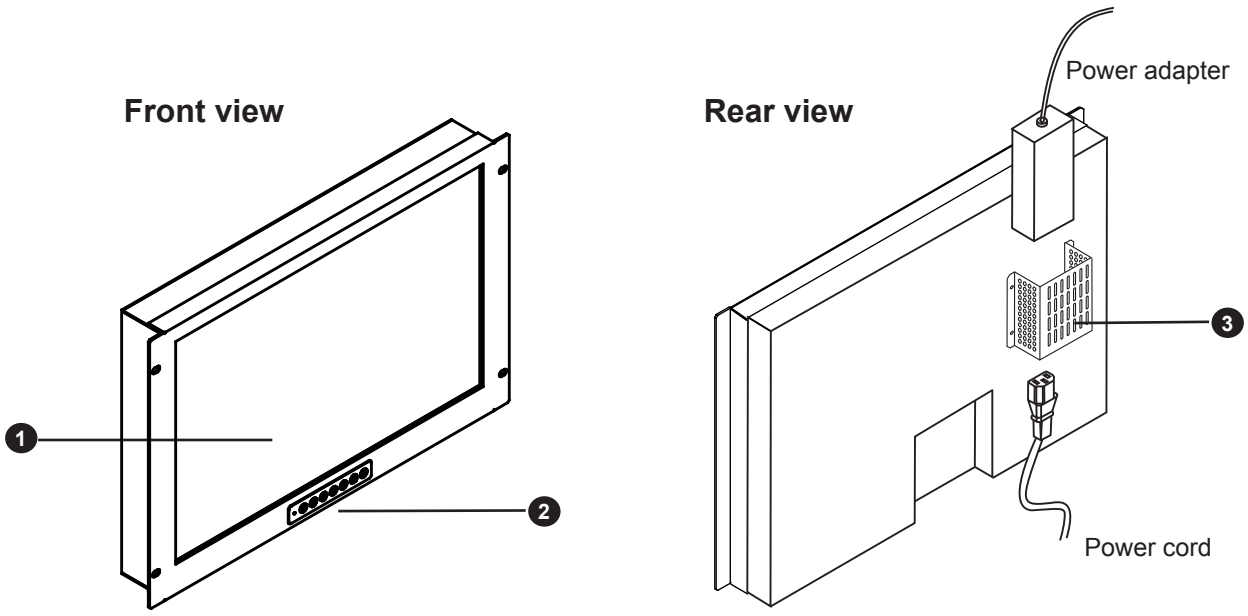
⑥ M3.2*4.5mm screw x 4 pcs

⑦ Power adapter bracket x 1 pc

2.2 Structure Diagram

Chapter 2

MPW-19 & MPW-22

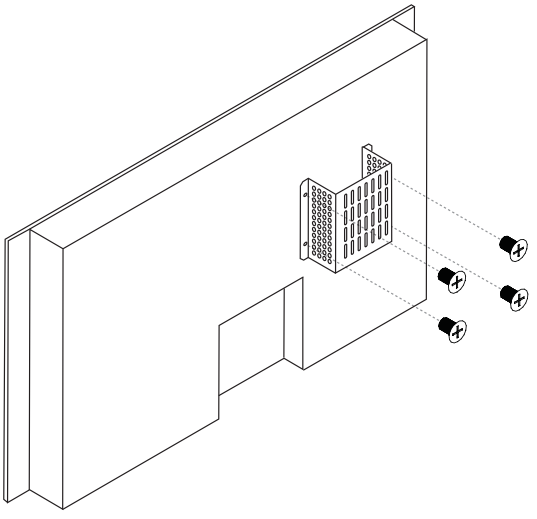


① LCD interchangeable module kit

② LCD membrane

③ Power adapter bracket

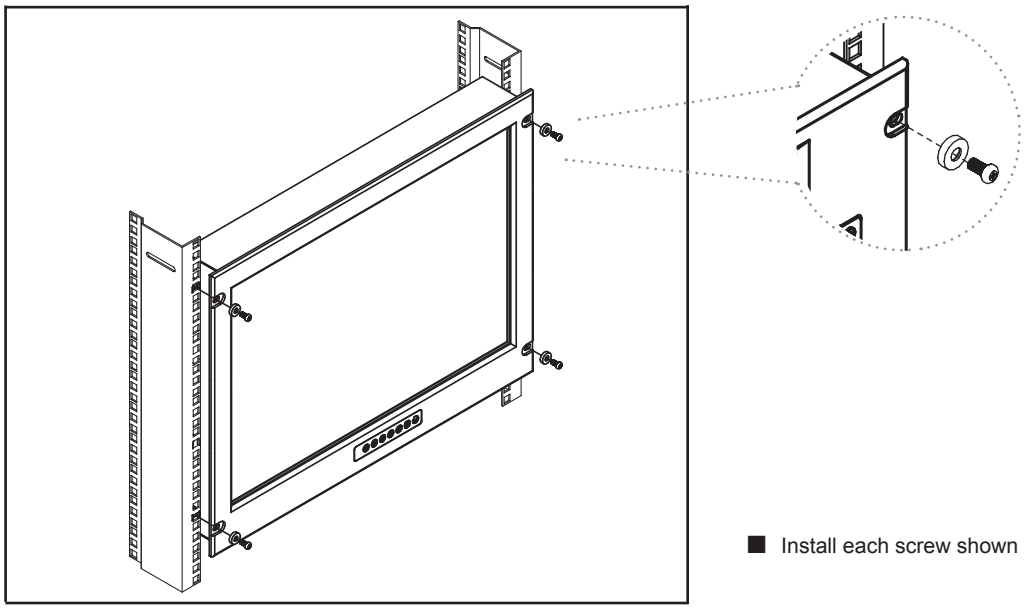
Power adapter bracket installation



M3.2*4.5mm screw x 4 pcs

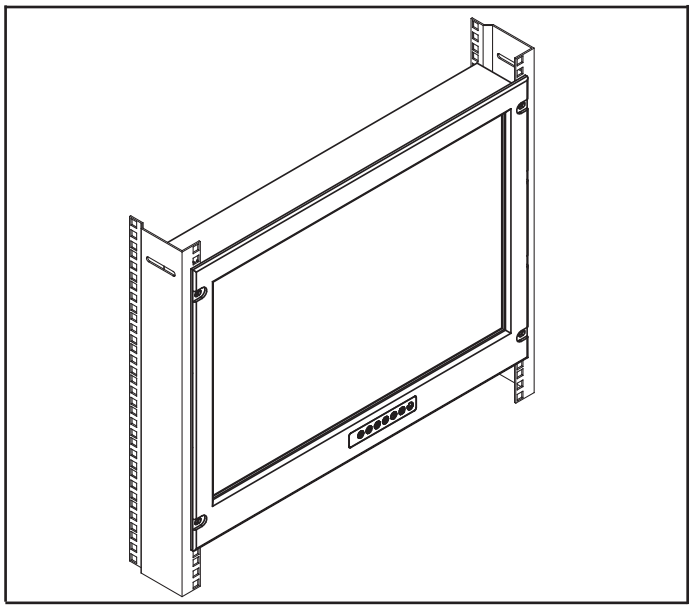
2.3 Installation

MPW-19



■ Install each screw shown in **Figure 1**.

Figure 1.



■ Fix the LCD into the rack.

*** M6 screws are not provided.**

Figure 2.

MPW-22

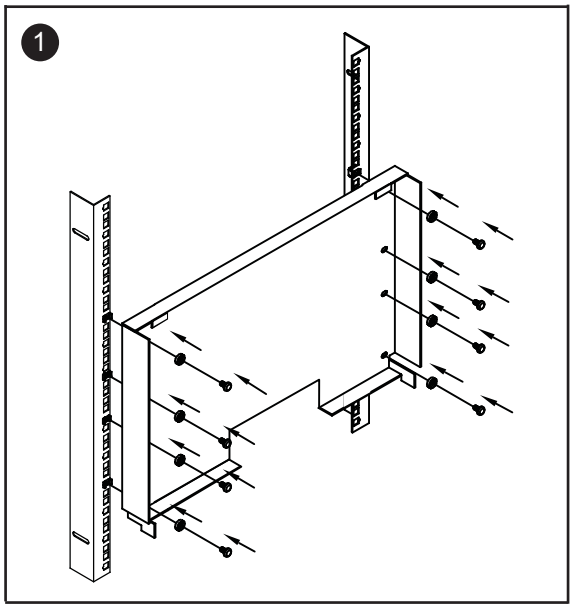


Figure 3.

■ Install each screw shown in **Figure 3**.

*** M6 screws are not provided.**

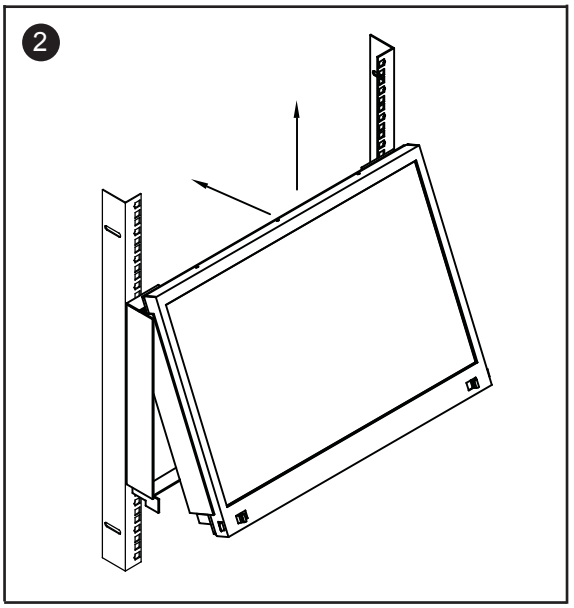


Figure 4.

■ Insert the upper part of the LCD display to the rack shown in **Figure 4**.

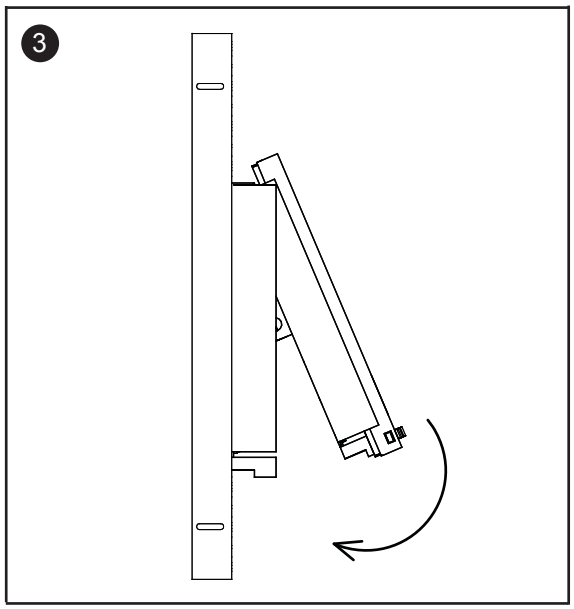


Figure 5.

■ Push the lower part of the LCD into the rack.

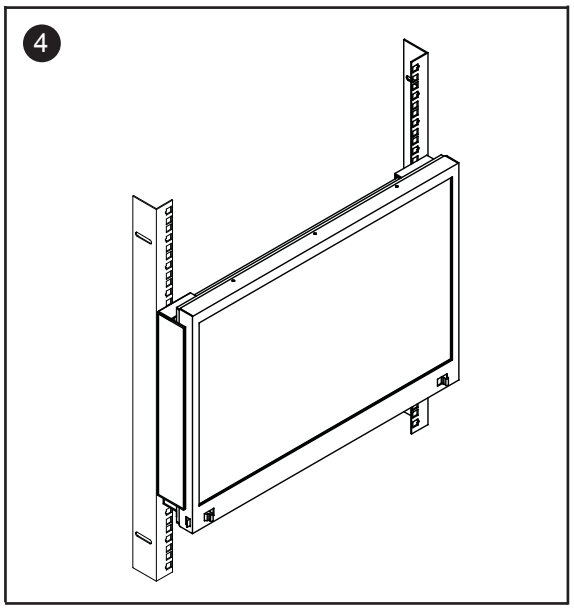


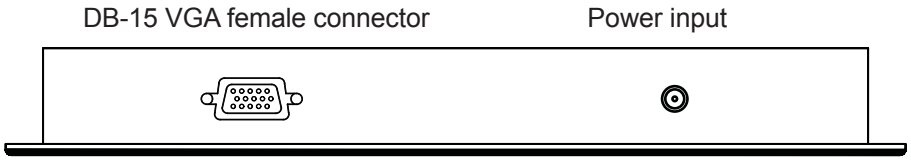
Figure 6.

■ Installation completed.

2.4 Connection

Chapter 2

MPW-19 & MPW-22



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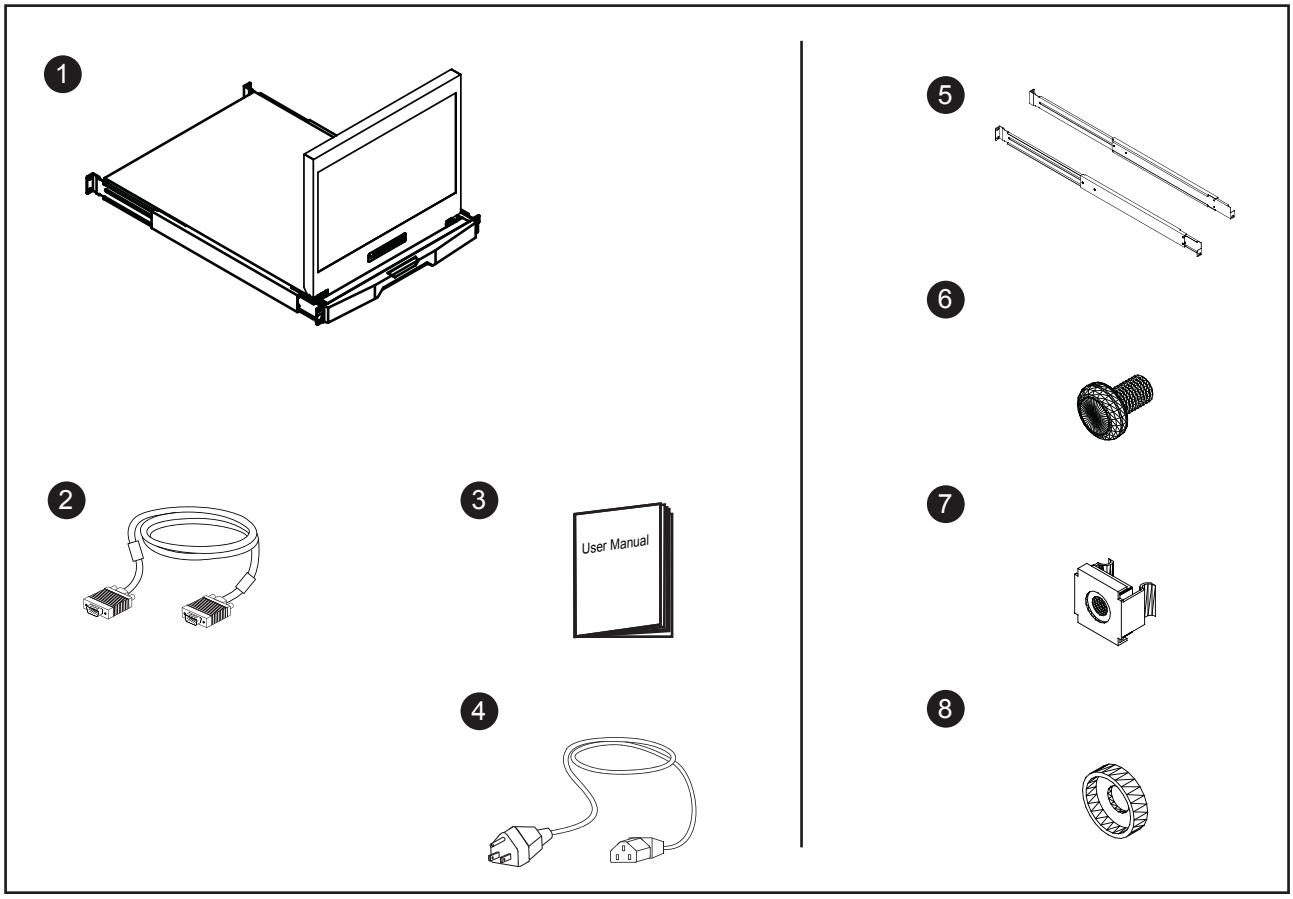
3.1 Package Contents

Chapter 3

MDW-19



① LCD drawer x 1 pc

② 6’ VGA cable (male to male) x 1 pc

③ User manual (As of Sept 2011, all user manuals will be download-only. Physical copies are available upon request)

④ Power cord x 1 pc

⑤ Mounting bracket x 2 pcs

⑥ M6*15mm screw x 8 pcs

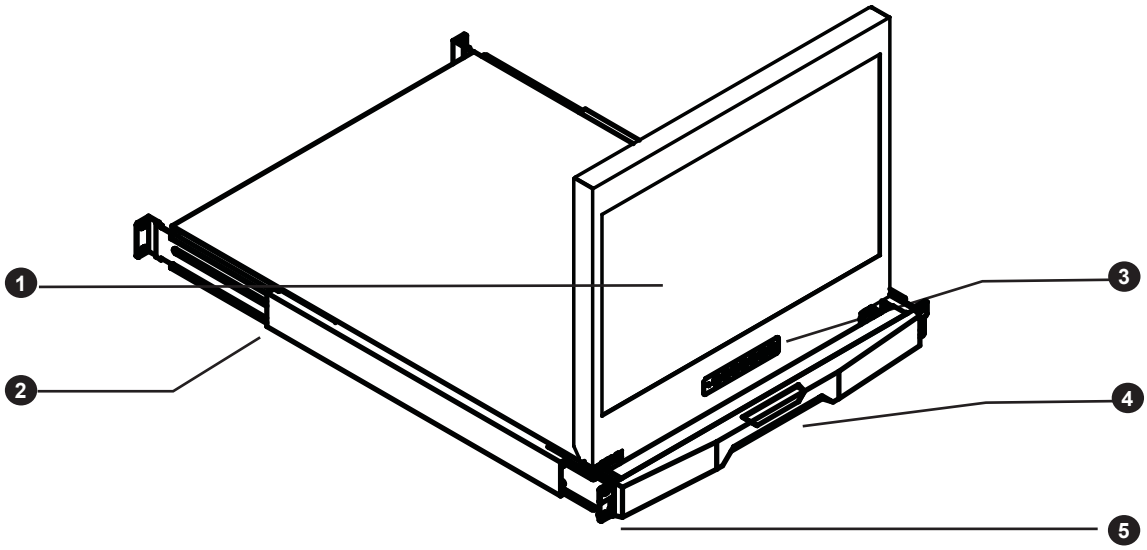
⑦ M6 cage nut x 6 pcs

⑧ Cup washer x 8 pcs

3.2 Structure Diagram

Chapter 3

MDW-19



① LCD interchangeable module kit

② “One Man” Installation Slide

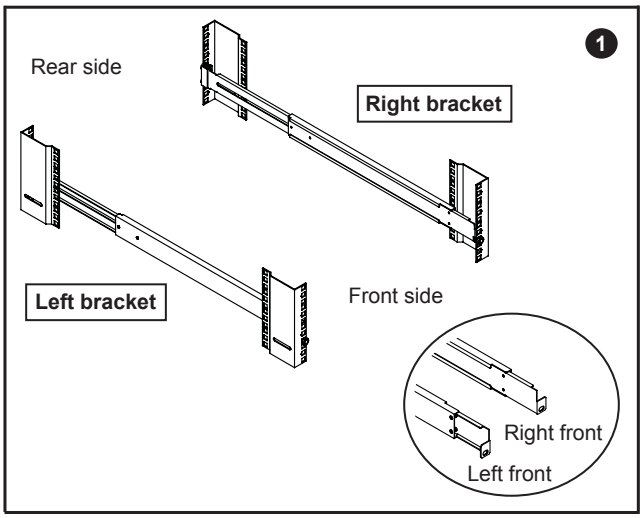
③ LCD membrane

④ Carry handle to release the 2-pt lock

⑤ 2-point lock

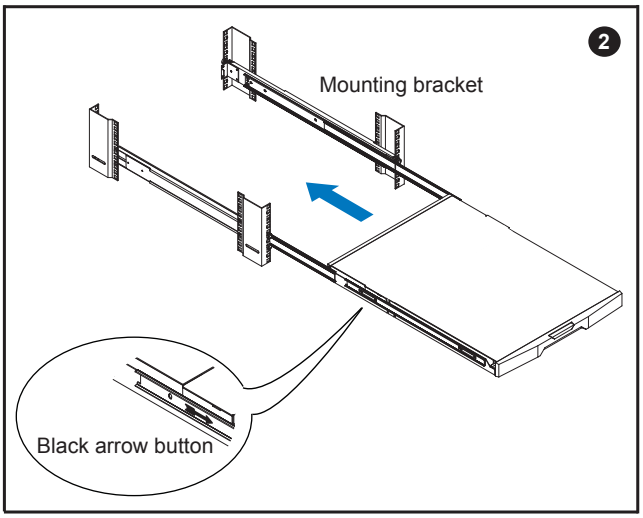
3.3 How to Install "One Man" Installation Slides

Installing into rack

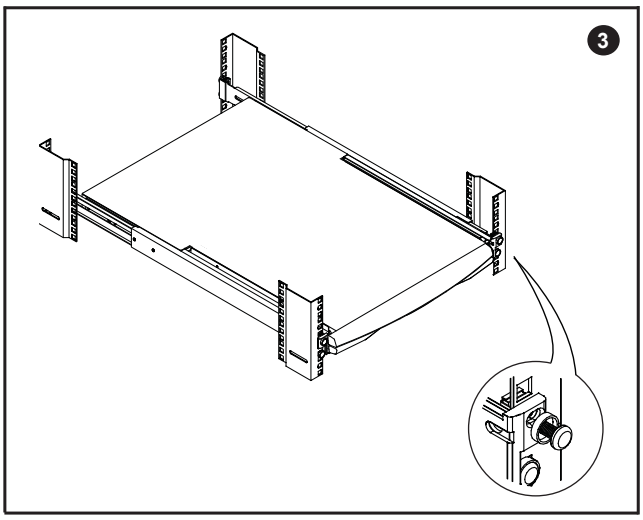


- Attach the left and right mounting bracket to rack 19” mounting rails.
- Adjust the rear mouting bracket to fit your rack.
- M6 screw and cup washer x 6 pcs included.

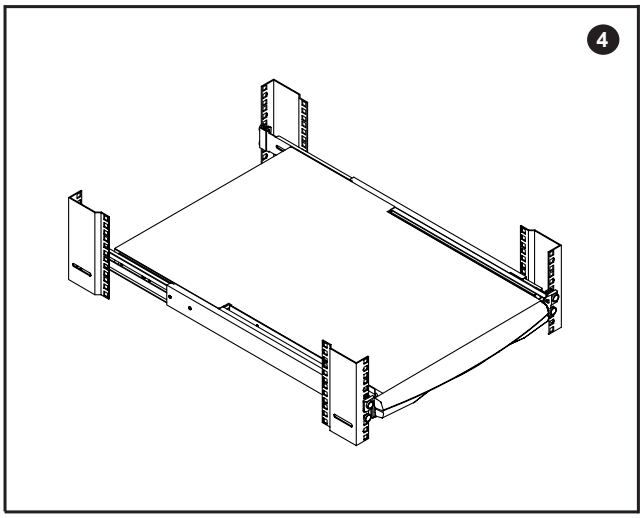
Caution : Leave the screws slightly loose until you complete the installation in step 4



- Pick up the LCD drawer.
- Insert the LCD drawer into the mounting bracket.
- Pull and hold the left & right black arrow buttons on the rails.
- Return the LCD drawer to park position.



- Attach front left and right mounting ears of the LCD drawer to vertical mounting rails.
- M6 screw and cup washer x 2 pcs included.



Complete the installation

- Tighten all 8 pcs of M6 screw to complete the installation.

3.4 How to Use the Slides

MDW-19

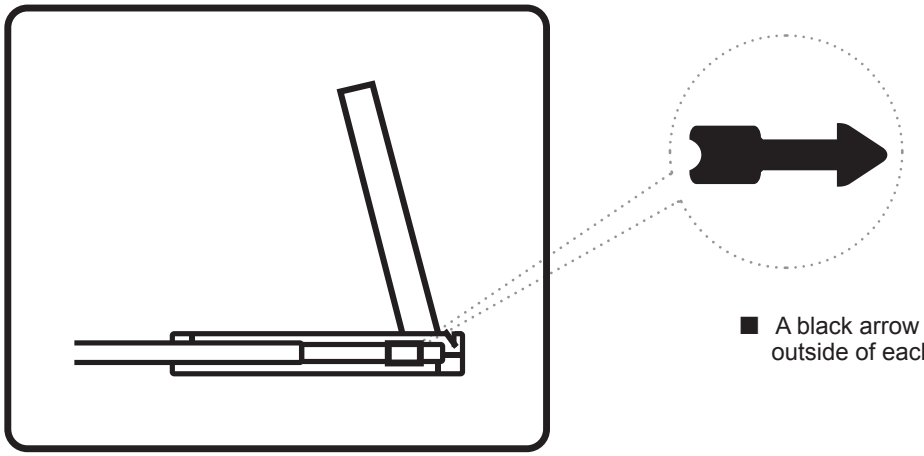


Figure 7.

■ A black arrow release button is located on the outside of each slide. (shown in **Figure 7)**.

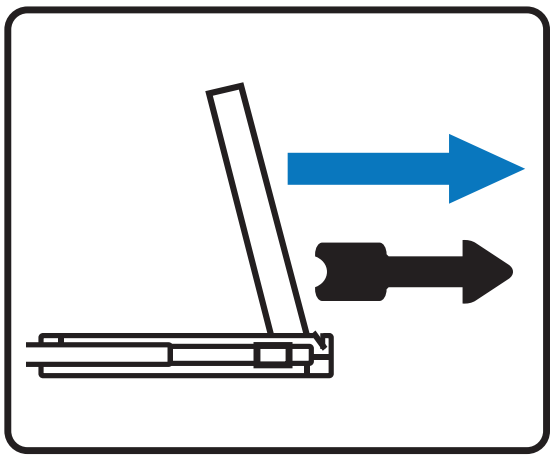


Figure 8.

■ Pull and hold the black arrow button on either side of the LCD drawer to unlock. (shown in **Figure 8)**.

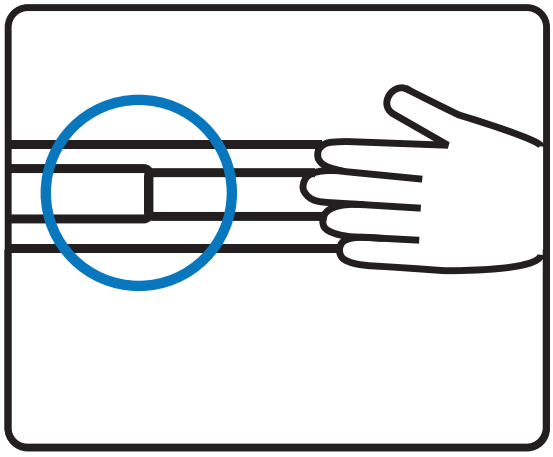


Figure 9.

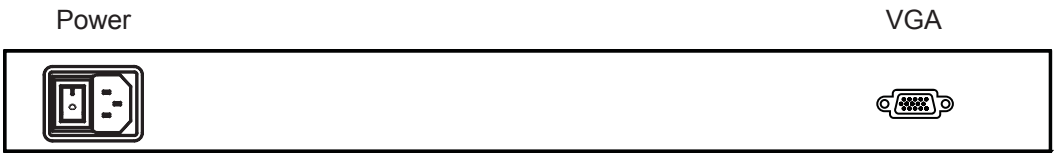
■ Push the LCD drawer into the rack. (shown in **Figure 9)**.

Caution : Keep your ngers away from the slide stop

3.5 Connection

Chapter 3

MDW-19



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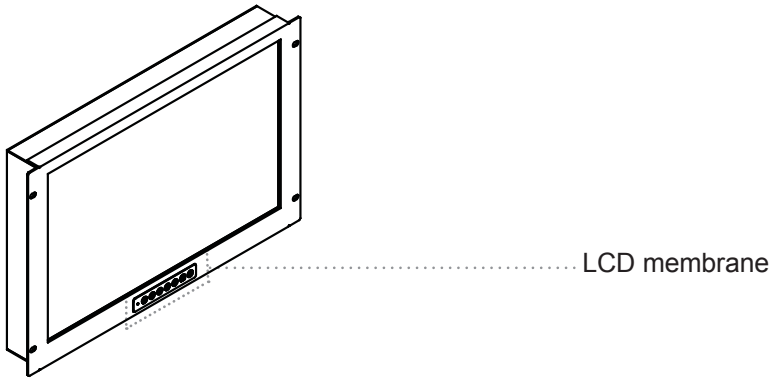
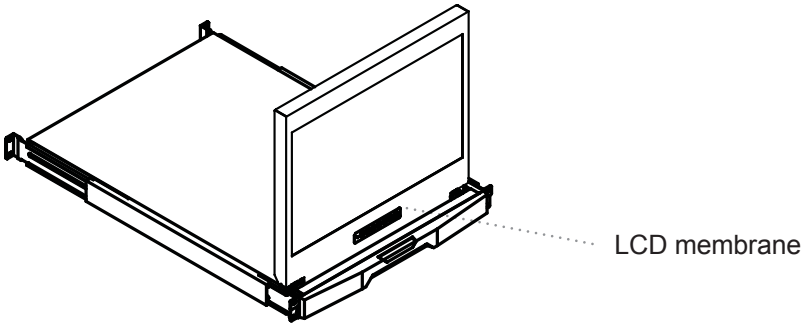
4.1 On-Screen Display Operation

Chapter 4

MPW-19 & MPW-22



MDW-19/RP-W119

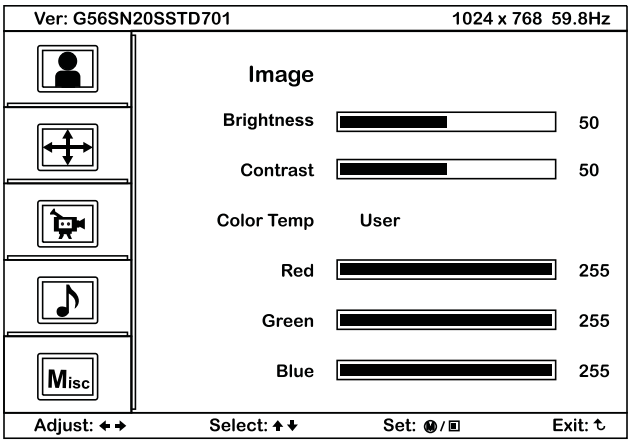


Membrane Switch	Function
○ ● ●	Power light Green = On Orange = Power saving
⏻	Power on / off LCD
M	Display the OSD menu
◈ ◈ ◈ ◈	Scrolls through menu options and adjusts the displayed control (To auto adjustment by pressing the button ◈ for 5 seconds)
↩	Exit the OSD screen Toggle analog, digital & video connection (DVI-D and video options only)

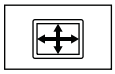
4.2 On-Screen Menu

Chapter 4

MPW-19, MPW-22 & MDW-19



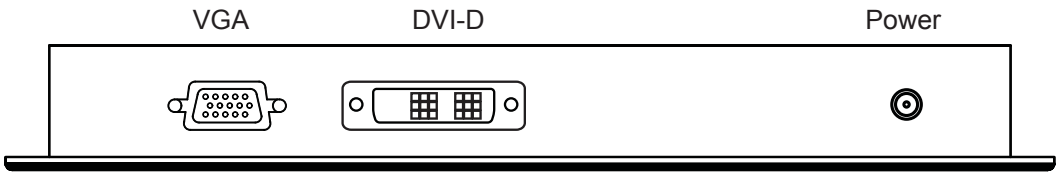
OSD Configuration Page

	Image: To open the brightness, contrast, color temp, red, green, and blue controls
	**Geometry:** To open the auto adjust, H position, V position, phase and clock controls
	Video: To open the color, tint, sharpness, noise reduction, DCDi and TV Setup controls
	Audio: To open volume, bass, treble, balance, AVL and mute controls
	Misc: To open the language, OSD position, graphic mode, ratio, reset and timer controls

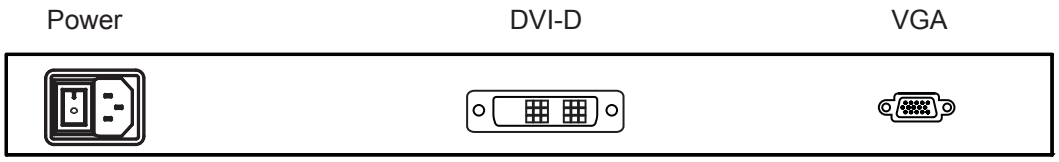
5.1 DVI-D Option

Chapter 5

MPW-19 & MPW-22



MDW-19



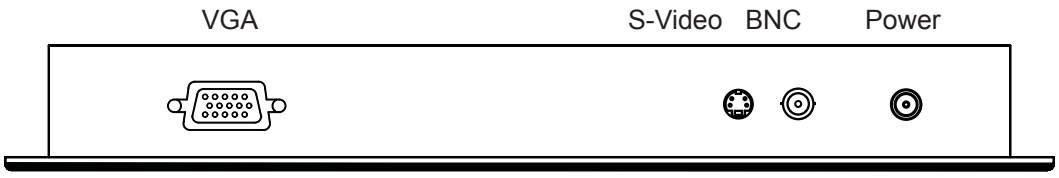
Please Note:

■ Package includes 1 x 6ft DVI-D cable

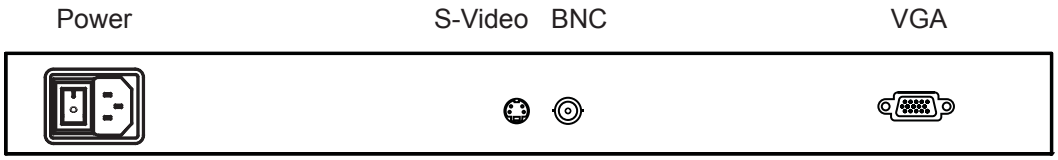
5.2 BNC + S-Video Option

Chapter 5

MPW-19 & MPW-22



MDW-19

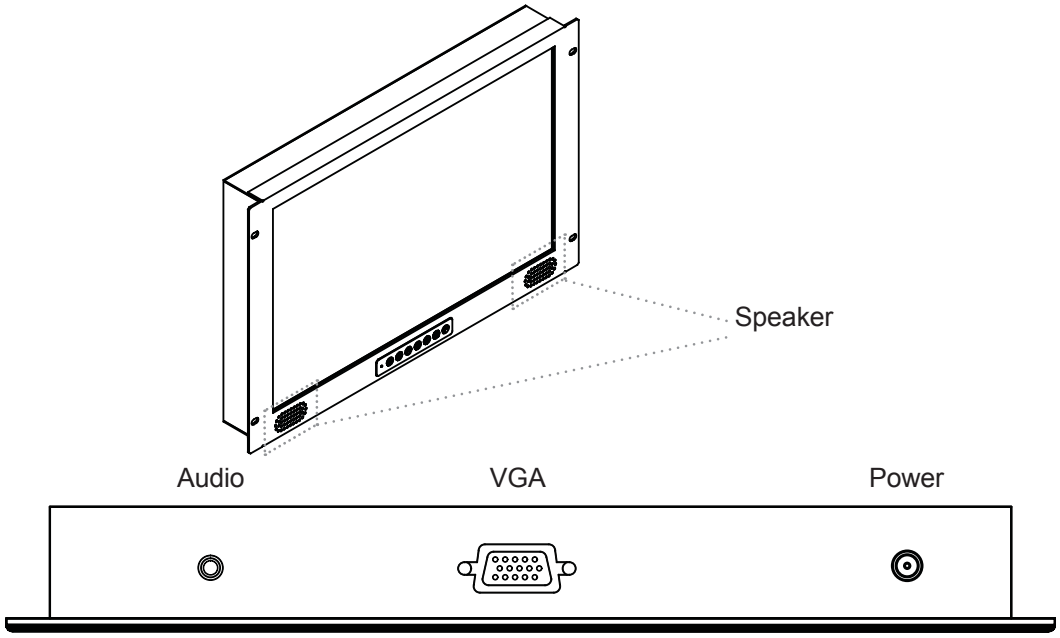


Please Note:

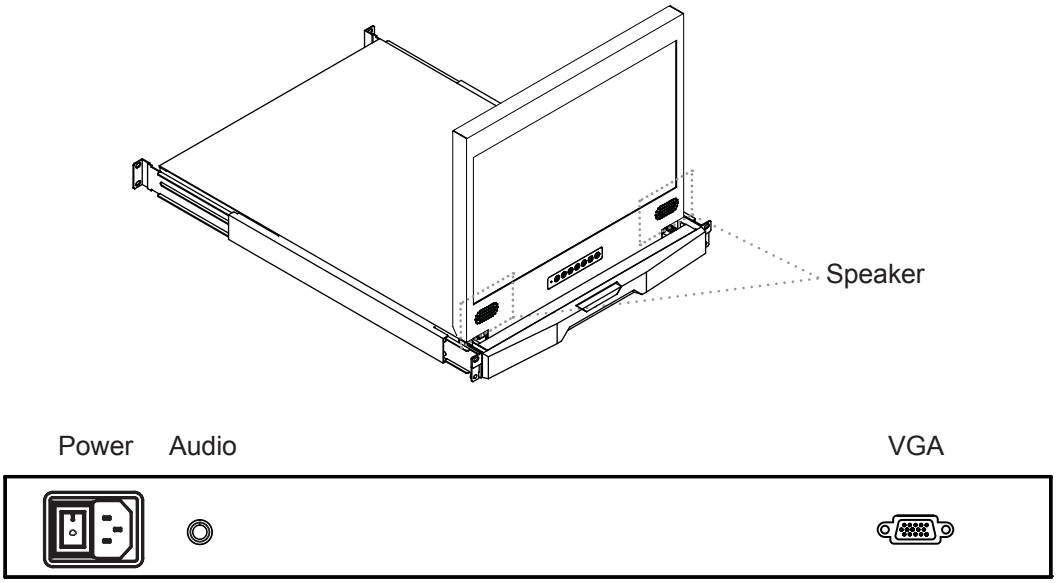
■ Package includes 1 x 6ft S-Video cable

5.3 Audio Option

MPW-19 & MPW-22



MDW-19

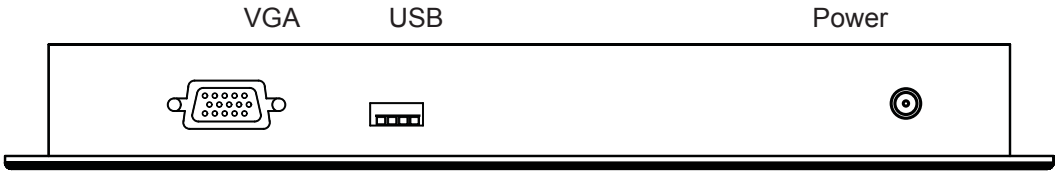


Please Note:

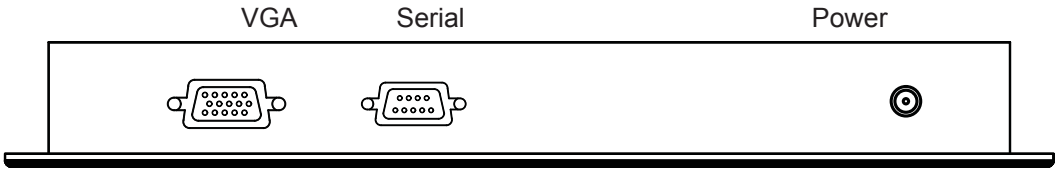
- Audio input is 35mm audio plug
- The speaker is sharing the same power with LCD.

MPW-19 & MPW-22

USB interface



Serial interface



5.4 Touchscreen Options

e-Resistive

Model	-19WTRB / -19WTRS	-22WTRB / -22WTRS
Screen size	19" wide	22" wide
Interface	USB / serial	
Optical transmittance	80% ± 3%	
Surface hardness	≥3H (JIS K5400)	
Operating system	Windows 98 / 2000 / ME / XP / NT / CE, DOS, Linux	

e-Capacitive

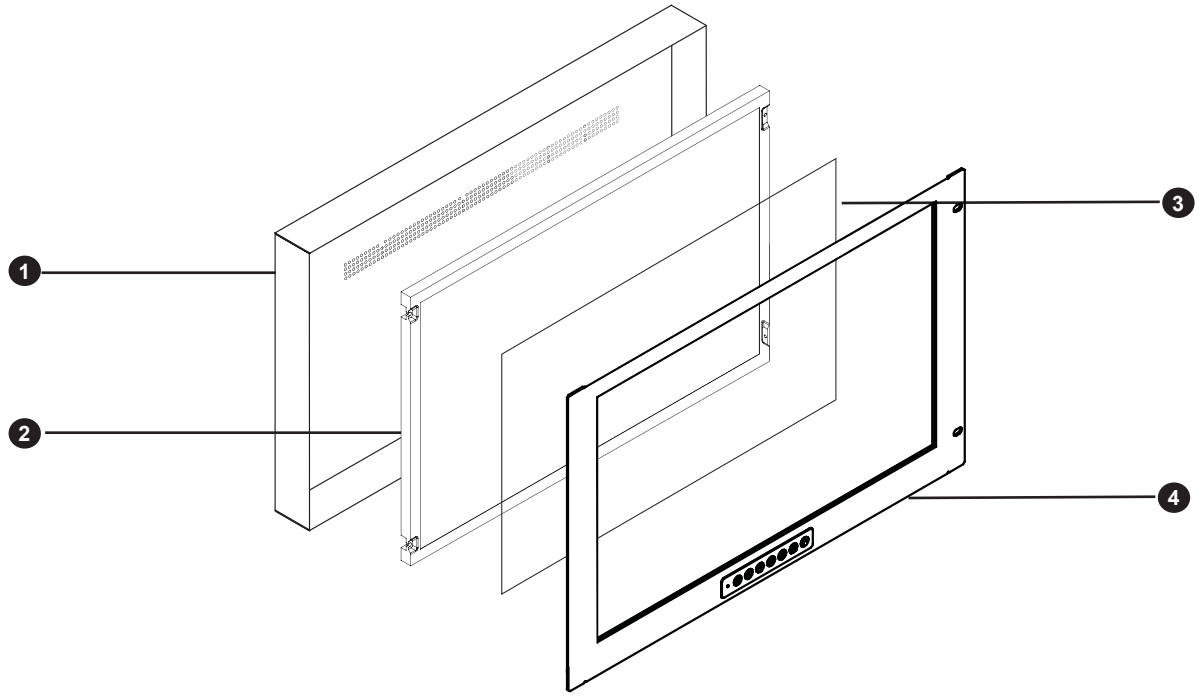
Model	-19WTCB / -19WTCS	-22WTCB / -22WTCS
Screen size	19" wide	22" wide
Interface	USB / serial	
Optical transmittance	93% ± 2%	
Surface hardness	>9H Surface hardness, withstand over 300 million touches	
Operating system	Windows 98 / 2000 / ME / XP / NT / CE, DOS, Linux	

Please Note:

- USB touchscreen package includes 1 x 6ft USB cable, quick reference guideline and CD disc
- Serial touchscreen package includes 1 x 6ft serial cable, quick reference guideline and CD disc
- For detailed information, please refer to the CD disc included with the touchscreen
- As the touchscreen unit is not made of toughened glass, please handle it carefully
- Touchscreen in other brands are available on request

5.5 Front NEMA 4 / IP65 Option

MPW-19 & MPW-22



① Rear case

② LCD panel

③ 4mm protective glass (Front NEMA 4 / IP65 protection)

④ Aluminum front panel

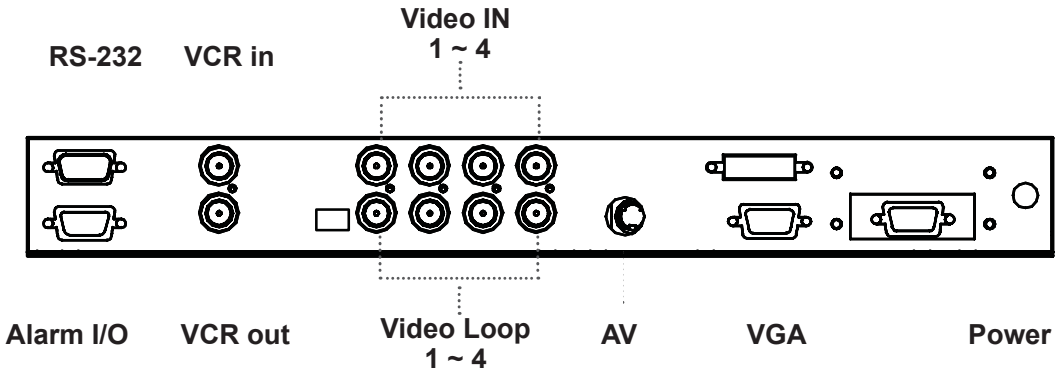
Please Note:

■ 4mm thickness of protective glass is not reinforced -- please handle it carefully

5.6 Quad Display Option

Chapter 5

Specifications



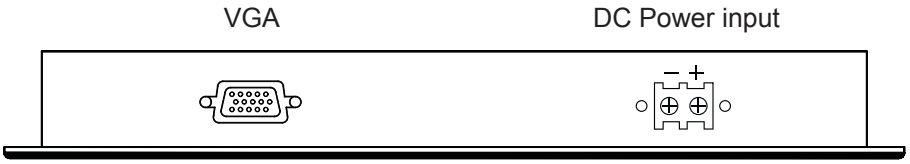
Item		Description	
Model Number		QD (NTSC)	QD (PAL)
Number of Color		16.7 M	16.7 M
Imaging System		NTSC	PAL
Resolution		1024 x 525	1024 x 625
Refresh Rate		60	50
Video Input	Camera Input	1.0 Vpp, 75 Ohm x 4	
	VCR Input	1.0 Vpp, 75 Ohm x 1	
Video Output	Live Monitor	1.0 Vpp, 75 Ohm x 1	
	Loop Through Out	1.0 Vpp, 75 Ohm x 4	
	VCR Output	1.0 Vpp, 75 Ohm x 1	
Auto Gain Control		Yes	
Time / Date		Yes	
On Screen Display		Yes	
Camera Title		8 Character Title	
Display Format	2 x Zoom On Playback	Yes	
	QUAD	Yes	
	FULL	Yes	
	SEQUENCY	Yes	
Dwell Time		0 to 99 Sec Adjustable	
Built-in Buzzer		Yes	
Key Lock		Yes	

Please Note:

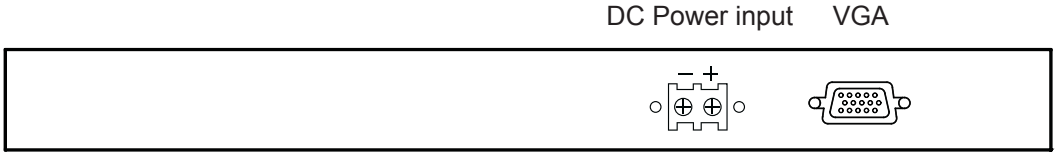
■ For more information on Quad Display, please refer to the Quad Display User Manual

5.7 DC Power Options

MPW-19 & MPW-22



MDW-19



Model	12V	24V	48V
Input rating			
Input voltage:	12-Volt	24-Volt	48-Volt
Input range:	9 ~ 18V	18 ~ 36V	36 ~ 75V
Input current			
- No load	50 mA	50 mA	50 mA
- Full load	4950 mA	2450 mA	1220 mA
Output rating			
Output voltage:	12-Volt	12-Volt	12-Volt
Output current:	4.16A	4.16A	4.16A
Efficiency	84%	85%	85%

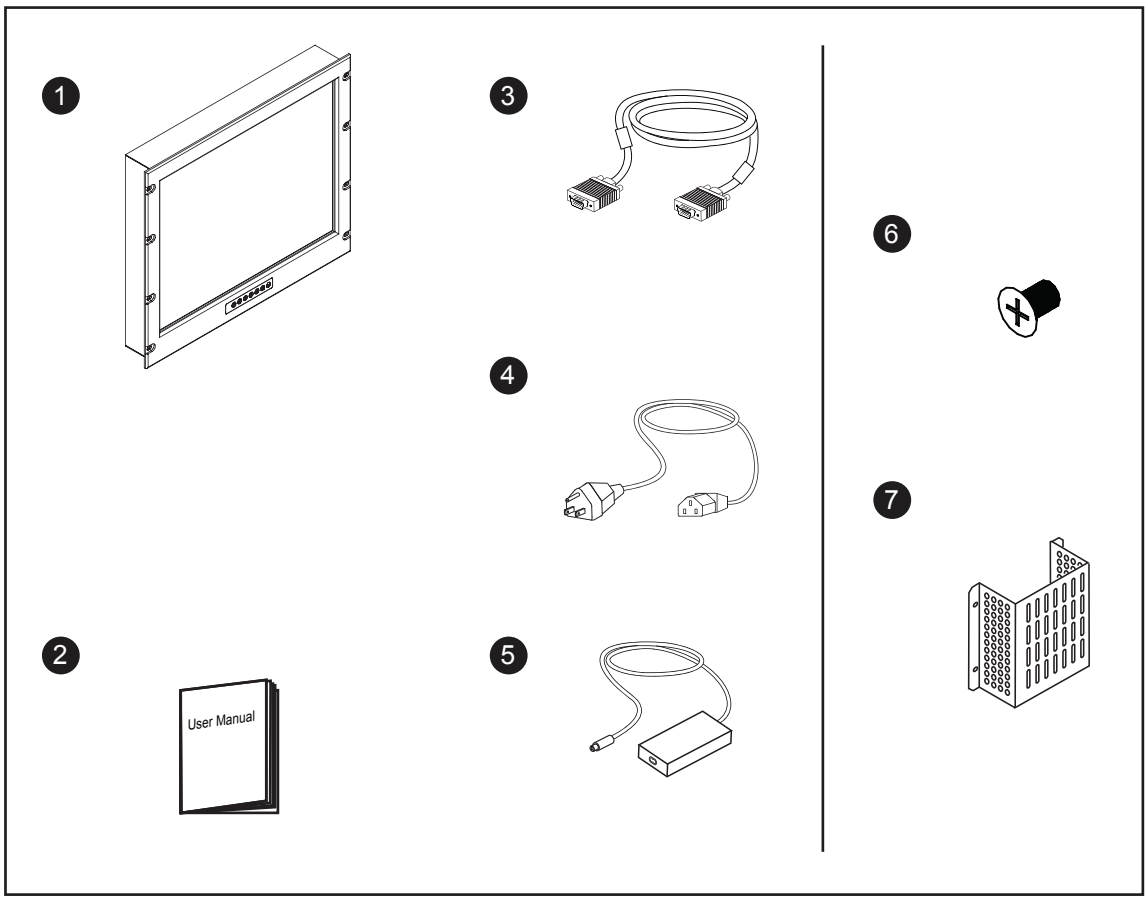
Please Note:

■ Power cabling is not included with DC Power option

6.1 Package Contents

Chapter 6

MP-15, MP-17, MP-19 & MP-20
SMP-17, SMP-19 & SMP-20



① Rackmount LCD display x 1 pc

② User manual (As of Sept 2011, all user manuals will be download-only. Physical copies are available upon request)

③ 6’ VGA cable (male to male) x 1 pc

④ Power cord x 1 pc

⑤ Auto switch power adapter x 1 pc

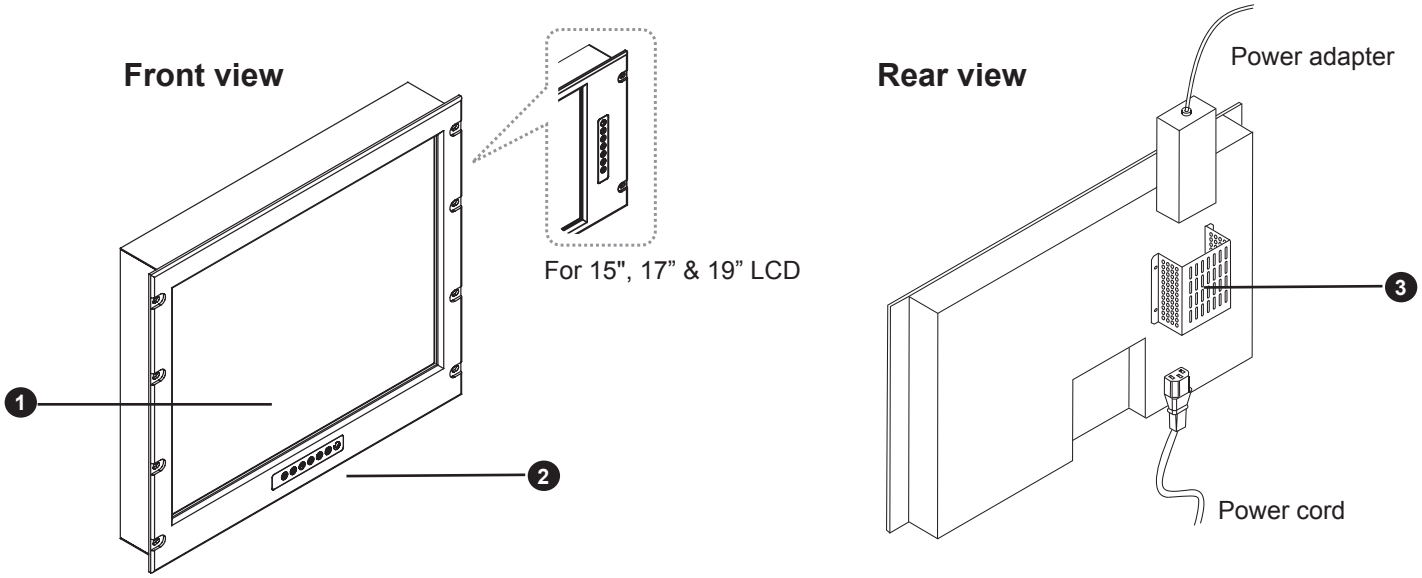
⑥ M3.2*4.5mm screw x 4 pcs

⑦ Power adapter bracket x 1 pc

6.2 Structure Diagram

Chapter 6

MP-15, MP-17, MP-19 & MP-20
SMP-17, SMP-19 & SMP-20

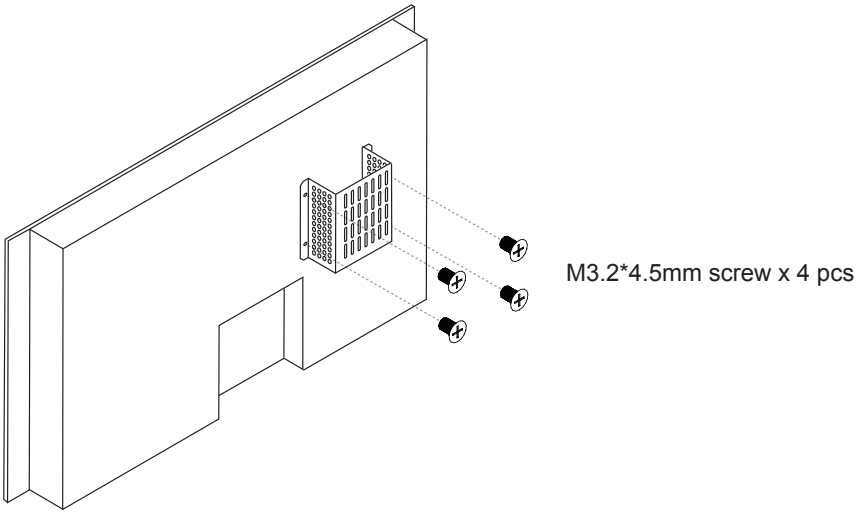


① LCD interchangeable module kit

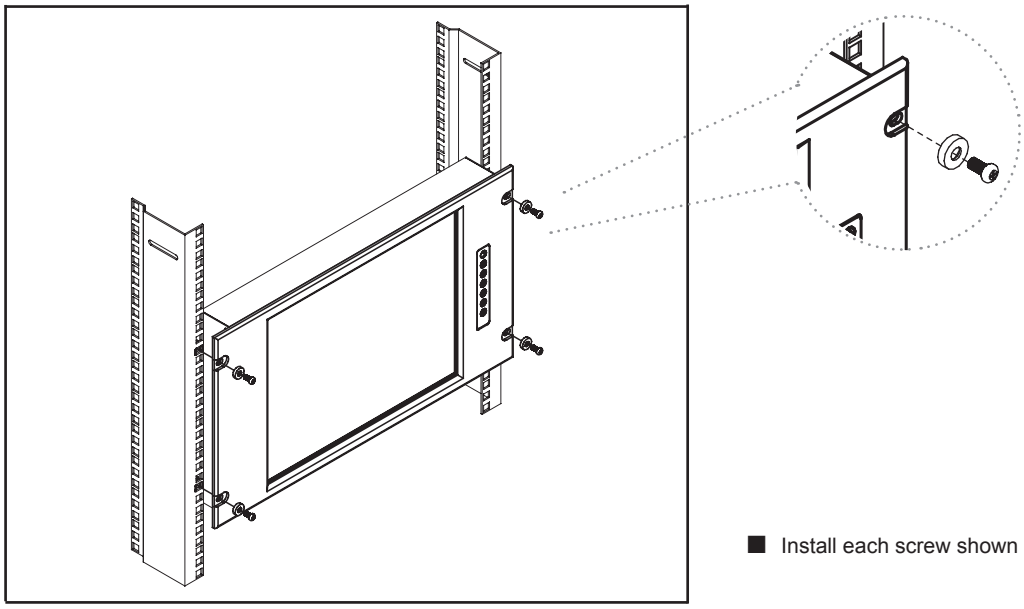
② LCD membrane

③ Power adapter bracket

Power adapter bracket installation

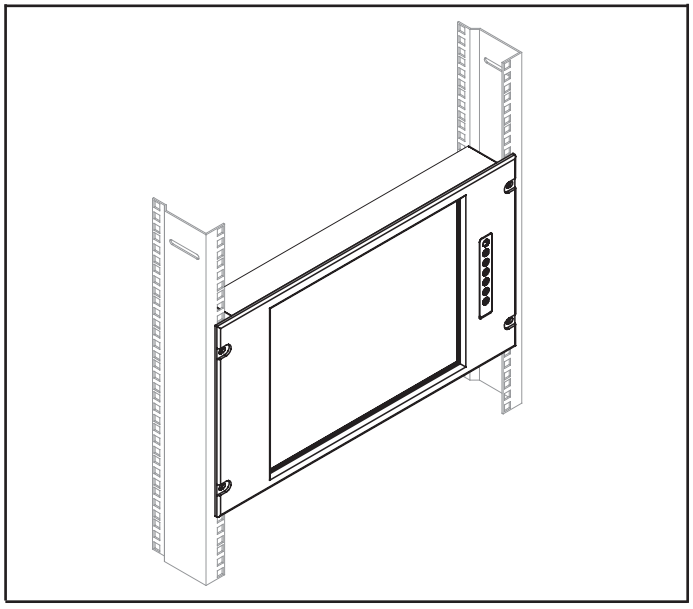


MP-15, MP-17 & MP-19
SMP-17 & SMP-19



■ Install each screw shown in **Figure 10**.

Figure 10.



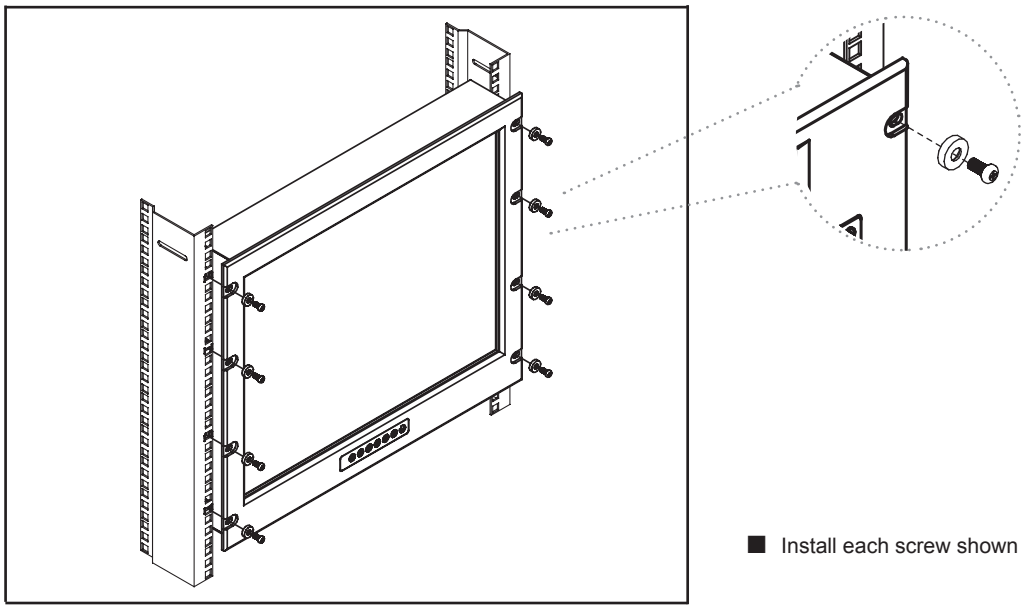
■ Fix the LCD into the rack.

*** M6 screws are not provided.**

Figure 11.

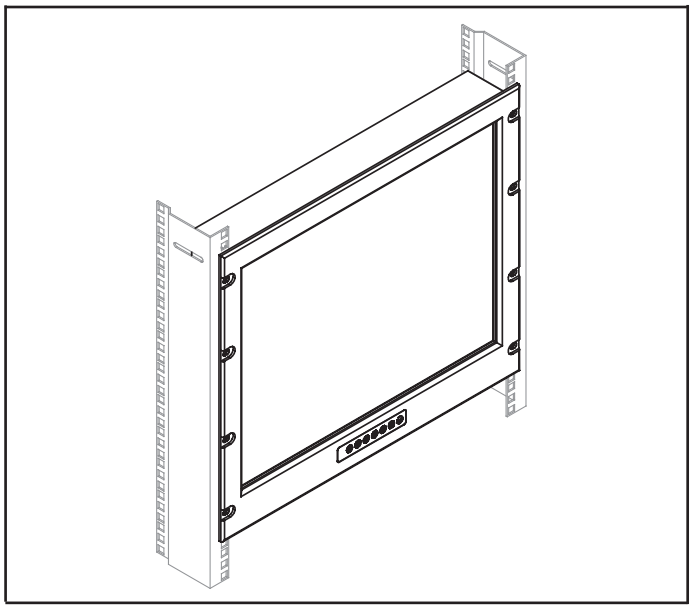
6.3 Installation

MP-20 & SMP-20



■ Install each screw shown in **Figure 12**.

Figure 12.



■ Fix the LCD into the rack.

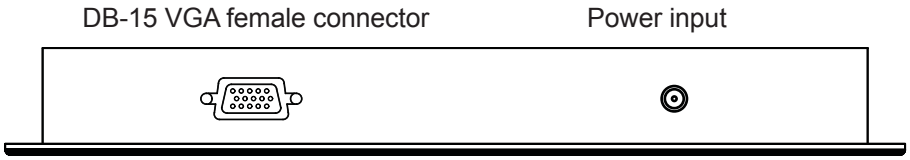
*** M6 screws are not provided.**

Figure 13.

6.4 Connection

Chapter 6

MP-15, MP-17, MP-19 & MP-20
SMP-17, SMP-19 & SMP-20

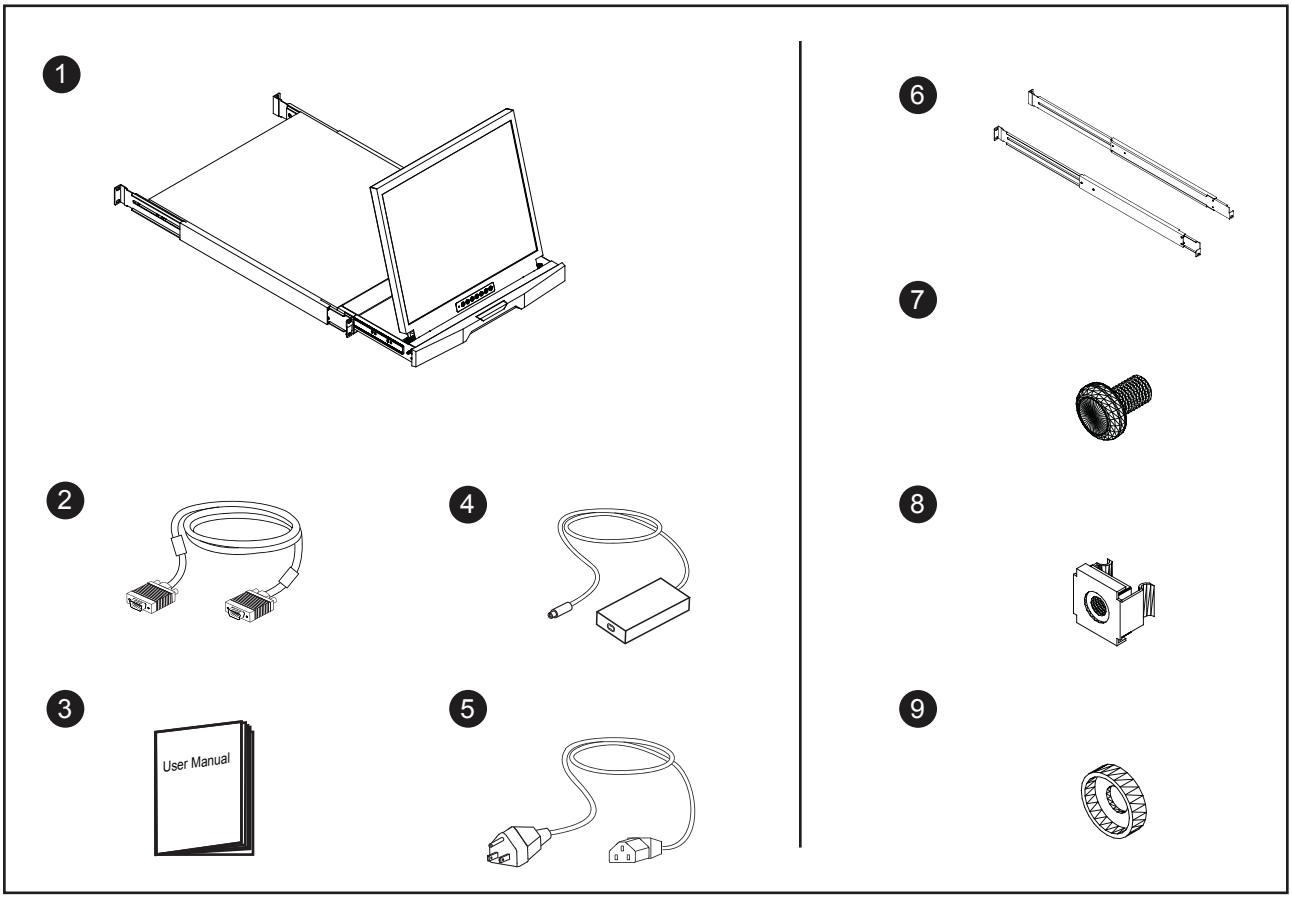


Caution : The Rackmount LCD Drawer & Display are hot-pluggable, but components of connected devices, such as the servers and KVM switch, may not be hot-pluggable. Plugging and unplugging cables while servers and KVM are powered on may cause irreversible damage of the servers, KVM and Rackmount LCD Drawer. Before attempting to connect anything to the Rackmount LCD Drawer, we suggest turning off power to all devices before connecting them. Apply power to connected devices again only after the Rackmount LCD Drawer is receiving power. The supplier is not responsible for damage caused in this way.

7.1 Package Contents

Chapter 7

MD-20 & SMD-20
MD-15, MD-17, MD-19, SMD-17 & SMD-19
MDS-15, MDS-17 & MDS-19



① LCD drawer x 1 pc

② 6' VGA cable (male to male) x 1 pc

③ User manual (As of Sept 2011, all user manuals will be download-only. Physical copies are available upon request)

④ Auto switch power adapter (for external power version) x 1 pc

⑤ Power cord x 1 pc

⑥ Mounting bracket x 2 pcs

⑦ M6*15mm screw x 8 pcs

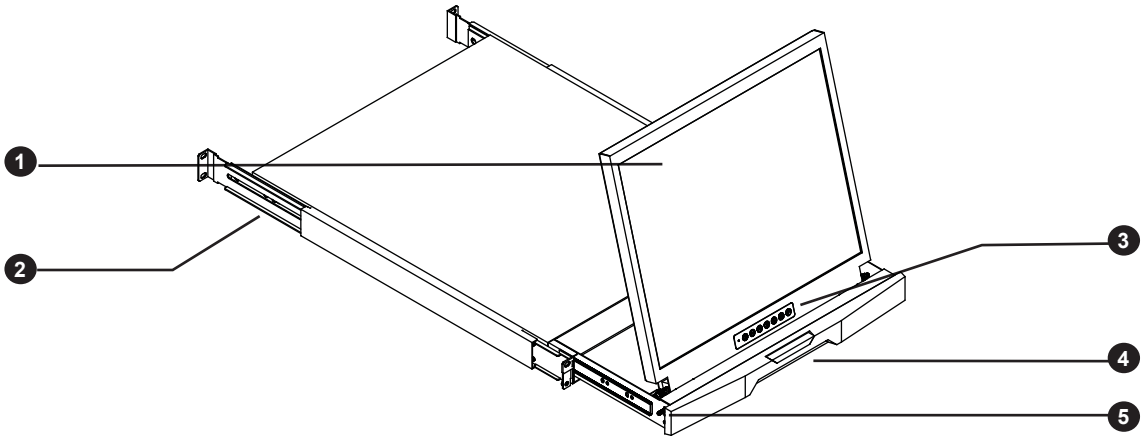
⑧ M6 cage nut x 6 pcs

⑨ Cup washer x 8 pcs

7.2 Structure Diagram

Chapter 7

MD-20 & SMD-20
MD-15, MD-17, MD-19, SMD-17 & SMD-19
MDS-15, MDS-17 & MDS-19



① LCD interchangeable module kit

② “One Man” Installation Slide

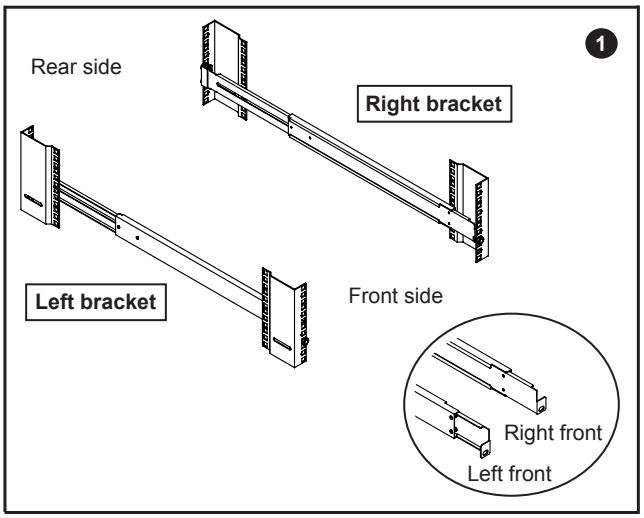
③ LCD membrane

④ Carry handle to release the 2-pt lock

⑤ 2-point lock

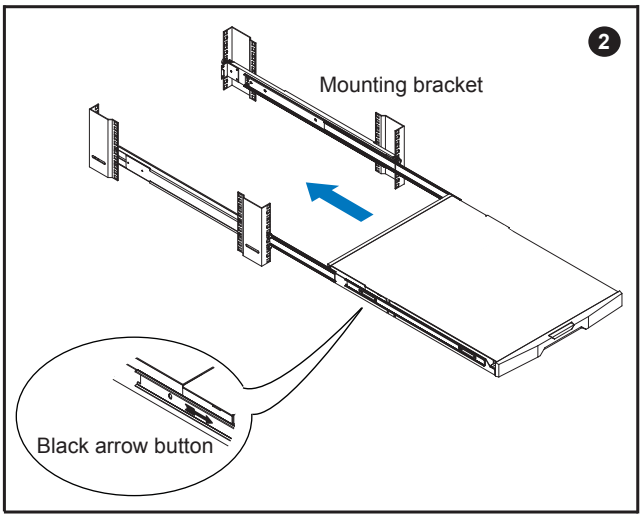
7.3 How to Install "One Man" Installation Slides

Install into rack

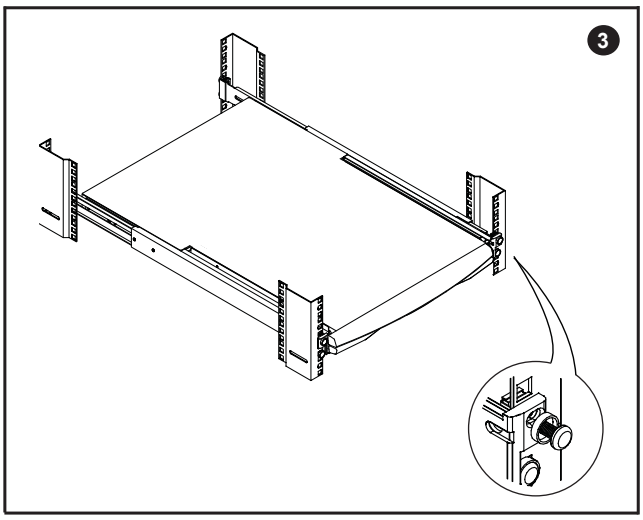


- Attach the left and right mounting bracket to rack 19” mounting rails.
- Adjust the rear mouting bracket to fit your rack.
- M6 screw and cup washer x 6 pcs included.

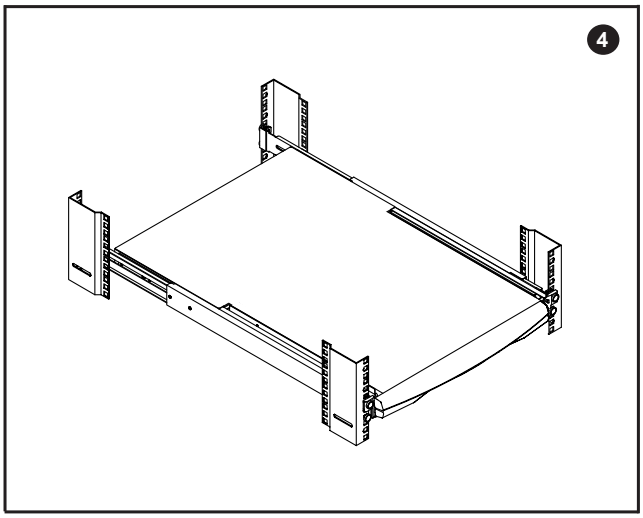
Caution : Leave the screws slightly loose until you complete the installation in step 4



- Pick up the LCD drawer.
- Insert the LCD drawer into the mounting bracket.
- Pull and hold the left & right black arrow buttons on the rails.
- Return the LCD drawer to park position.



- Attach front left and right mounting ears of the LCD keyboard drawer to vertical mounting rails.
- M6 screw and cup washer x 2 pcs included.

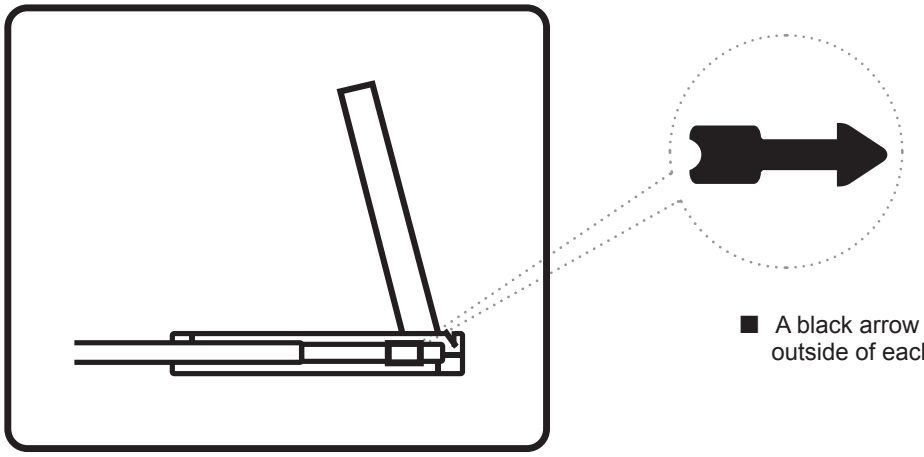


Complete the installation

- Tighten all 8 pcs of M6 screw to complete the installation.

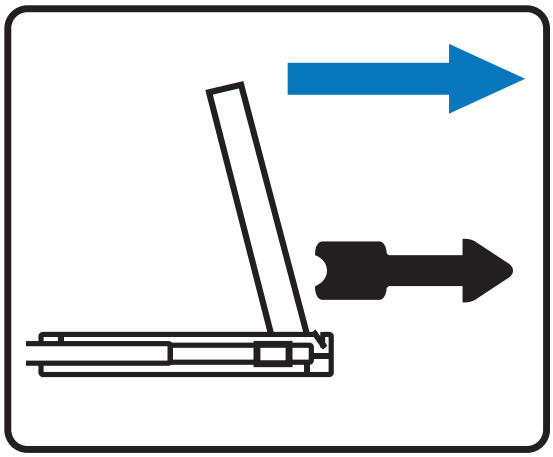
7.4 How to Use the Slides

MD-20 & SMD-20
MD-15, MD-17, MD-19, SMD-17 & SMD-19
MDS-15, MDS-17 & MDS-19



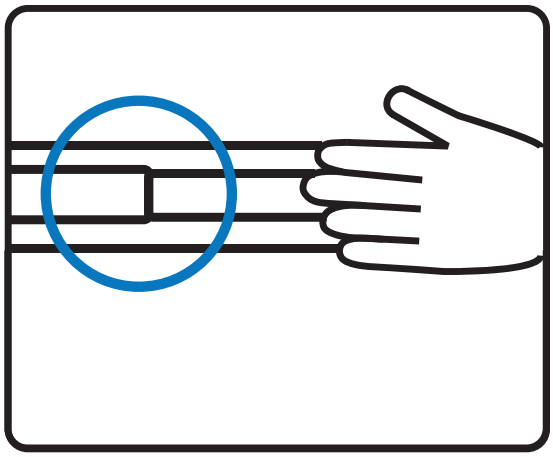
■ A black arrow release button is located on the outside of each slide. (shown in **Figure 14)**.

Figure 14.



■ Pull and hold the black arrow button on either side of the LCD drawer to unlock. (shown in **Figure 15)**.

Figure 15.



■ Push the LCD drawer into the rack. (shown in **Figure 16)**.

Caution : Keep your ngers away from the slide stop

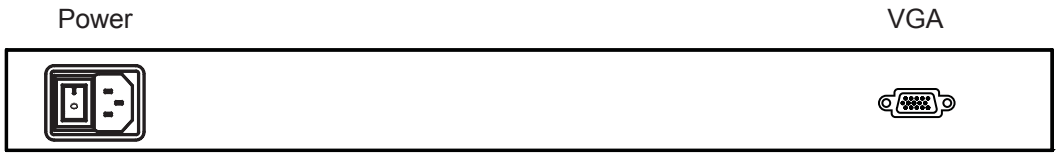
Figure 16.

7.5 Connection

Chapter 7

MD-20 & SMD-20
MD-15, MD-17, MD-19, SMD-17 & SMD-19
MDS-15, MDS-17 & MDS-19

Internal power version



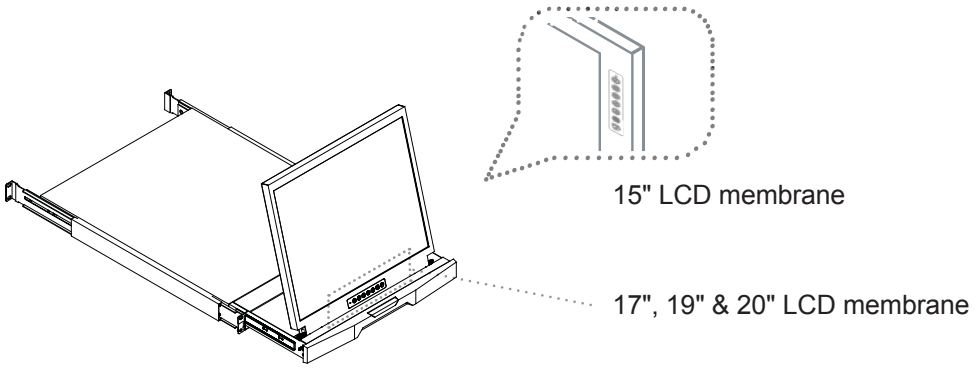
External power version (Shallow Depth models MDS-15 / 17 / 19)

Caution : The Rackmount LCD Drawer & Display are hot-pluggable, but components of connected devices, such as the servers and KVM switch, may not be hot-pluggable. Plugging and unplugging cables while servers and KVM are powered on may cause irreversible damage of the servers, KVM and Rackmount LCD Drawer. Before attempting to connect anything to the Rackmount LCD Drawer, we suggest that turn off power to all devices before connecting them. Apply power to connected devices again only after the Rackmount LCD Drawer receiving power. The supplier is not responsible for damage caused in this way.

8.1 On-Screen Display Operation

Chapter 8

MD-20 & SMD-20
MD-15, MD-17, MD-19, SMD-17 & SMD-19
MDS-15, MDS-17 & MDS-19

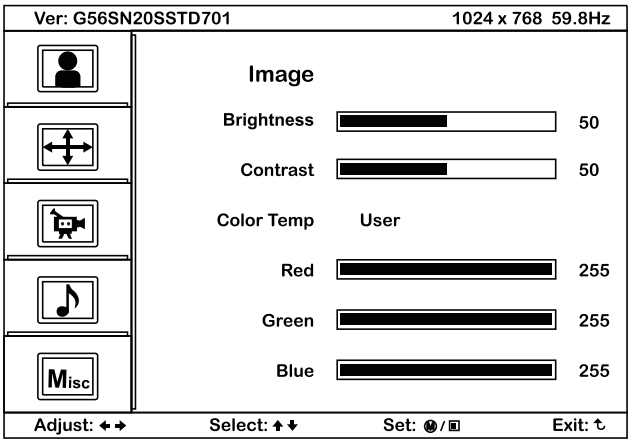


Membrane Switch	Function
○ ● ●	Power light Green = On Orange = Power saving
⊖	Power on / off LCD
M	Display the OSD menu
◈ ◈ ◈ ◈	Scrolls through menu options and adjusts the displayed control (To auto adjustment by pressing the button ◈ for 5 seconds)
↩	Exit the OSD screen Toggle analog, digital & video connection (DVI-D and video options only)

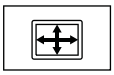
8.2 On-Screen Menu

Chapter 8

MD-20 & SMD-20
MD-15, MD-17, MD-19, SMD-17 & SMD-19
MDS-15, MDS-17 & MDS-19



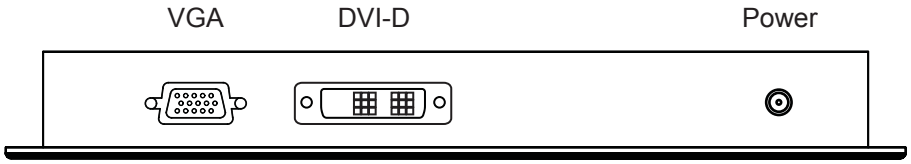
OSD Configuration Page

	Image: To open the brightness, contrast, color temp, red, green, and blue controls
	**Geometry:** To open the auto adjust, H position, V position, phase and clock controls
	Video: To open the color, tint, sharpness, noise reduction, DCDi and TV Setup controls
	Audio: To open volume, bass, treble, balance, AVL and mute controls
	Misc: To open the language, OSD position, graphic mode, ratio, reset and timer controls

9.1 DVI-D Option

Chapter 9

MP-15, MP-17, MP-19 & MP-20
SMP-17, SMP-19 & SMP-20

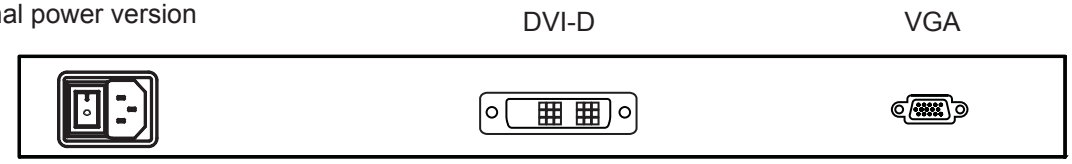


Please Note:

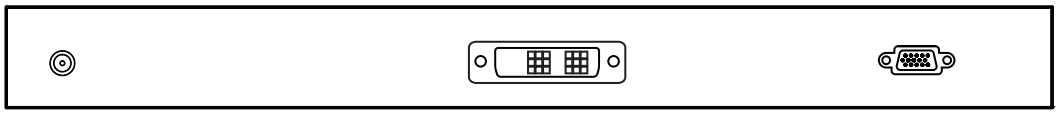
- Package includes 1 x 6ft DVI-D cable

MD-20 & SMD-20
MD-15, MD-17, MD-19, SMD-17 & SMD-19
MDS-15, MDS-17 & MDS-19

Internal power version



External power version (Shallow Depth models MDS-15 / 17 / 19)

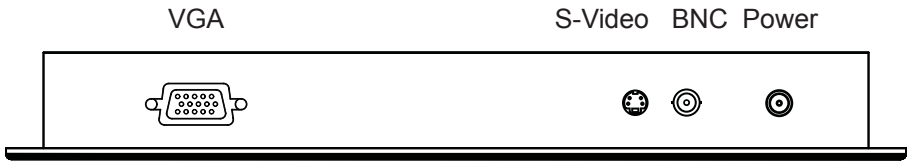


Please Note:

- Package includes 1 x 6ft DVI-D cable
- The depth of MDS-15 / 17 / 19 will be extended from 480mm (18.9") to 530mm (20.9")

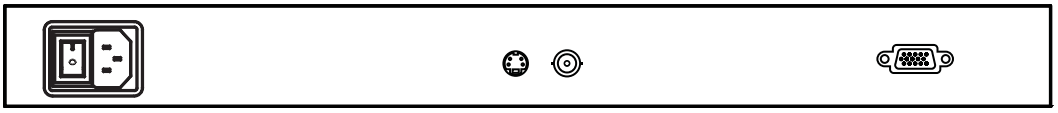
9.2 BNC + S-Video Option

MP-15, MP-17, MP-19 & MP-20

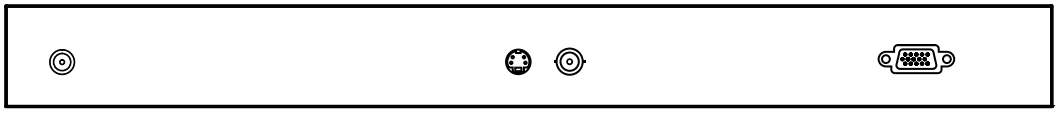


MD-20
MD-15, MD-17 & MD-19
MDS-15, MDS-17 & MDS-19

Internal power version



External power version (Shallow Depth models MDS-15 / 17 / 19)

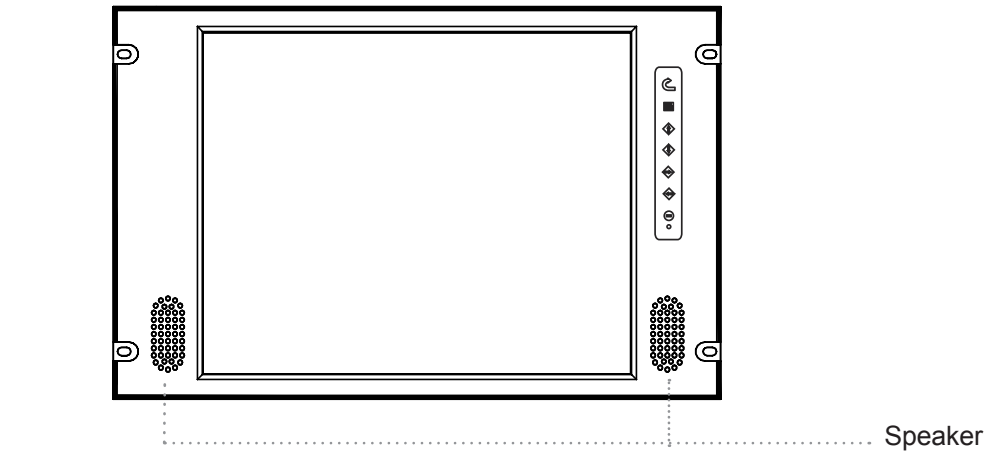


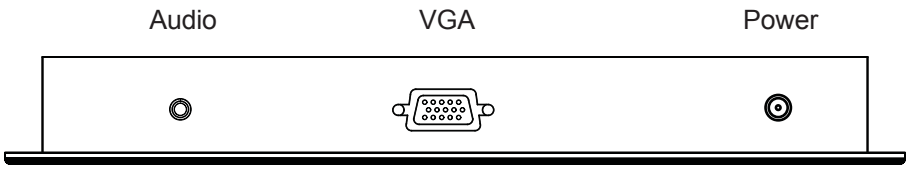
Please Note:

■ Package includes 1 x 6ft S-Video cable

9.3 Audio Option

MP-15, MP-17, MP-19 & MP-20





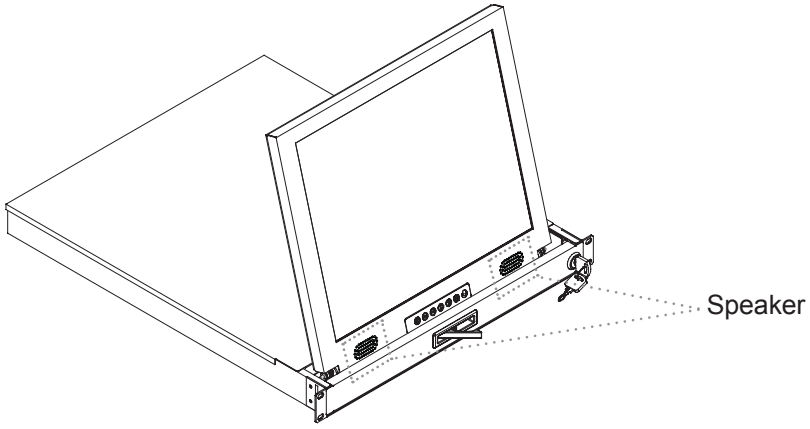
Please Note:

- Audio input is 35mm audio plug
- The speaker is sharing the same power with LCD.

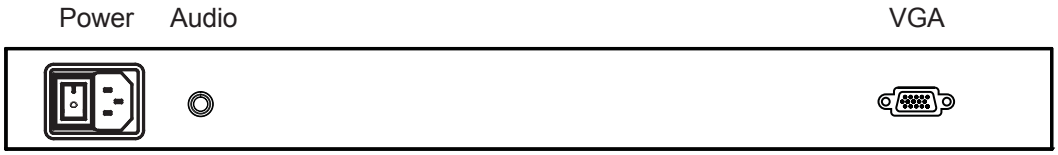
9.3 Audio Option

Chapter 9

MD-20
MD-15, MD-17 & MD-19
MDS-15, MDS-17 & MDS-19



Internal power version



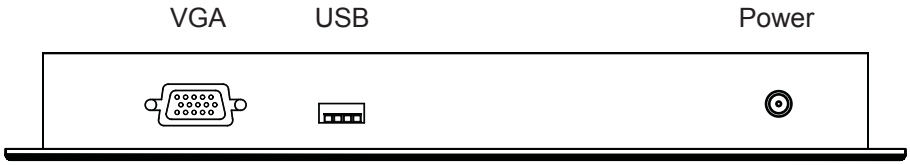
External power version (Shallow Depth models MDS-15 / 17 / 19)

Please Note:

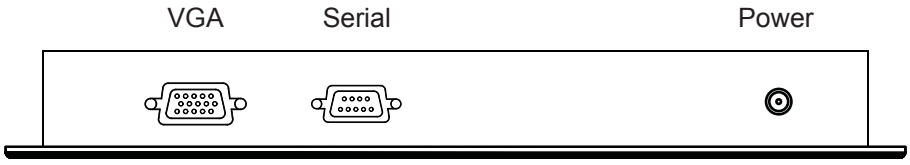
- Audio input is 35mm audio plug
- The speaker is sharing the same power with LCD.

MP-15, MP-17, MP-19 & MP-20

USB interface



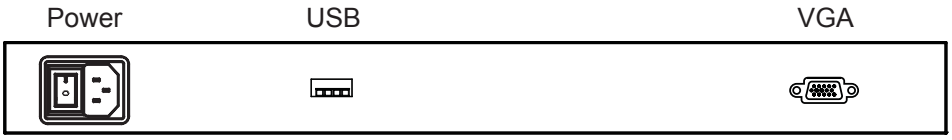
Serial interface



MD-20
MD-15, MD-17 & MD-19
MDS-15, MDS-17 & MDS-19

USB interface

Internal power version

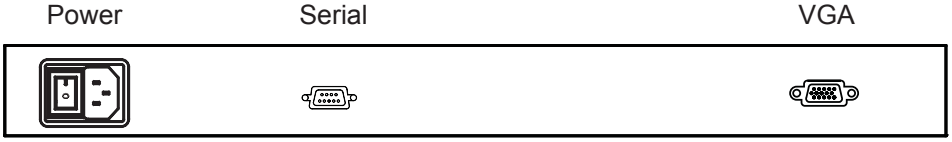


(Shallow Depth models MDS-15 / 17 / 19)

External power version

Serial interface

Internal power version



(Shallow Depth models MDS-15 / 17 / 19)

External power version

e-Resistive

Model	-15TRB / -15TRS	-17TRB / -17TRS	-19TRB / -19TRS	-20TRB / -20TRS
Screen size	15"	17"	19"	20"
Interface	USB / serial			
Optical transmittance	80% ± 3%			
Surface hardness	≥3H (JIS K5400)			
Operating system	Windows 98 / 2000 / ME / XP / NT / CE, DOS, Linux			

e-Capacitive

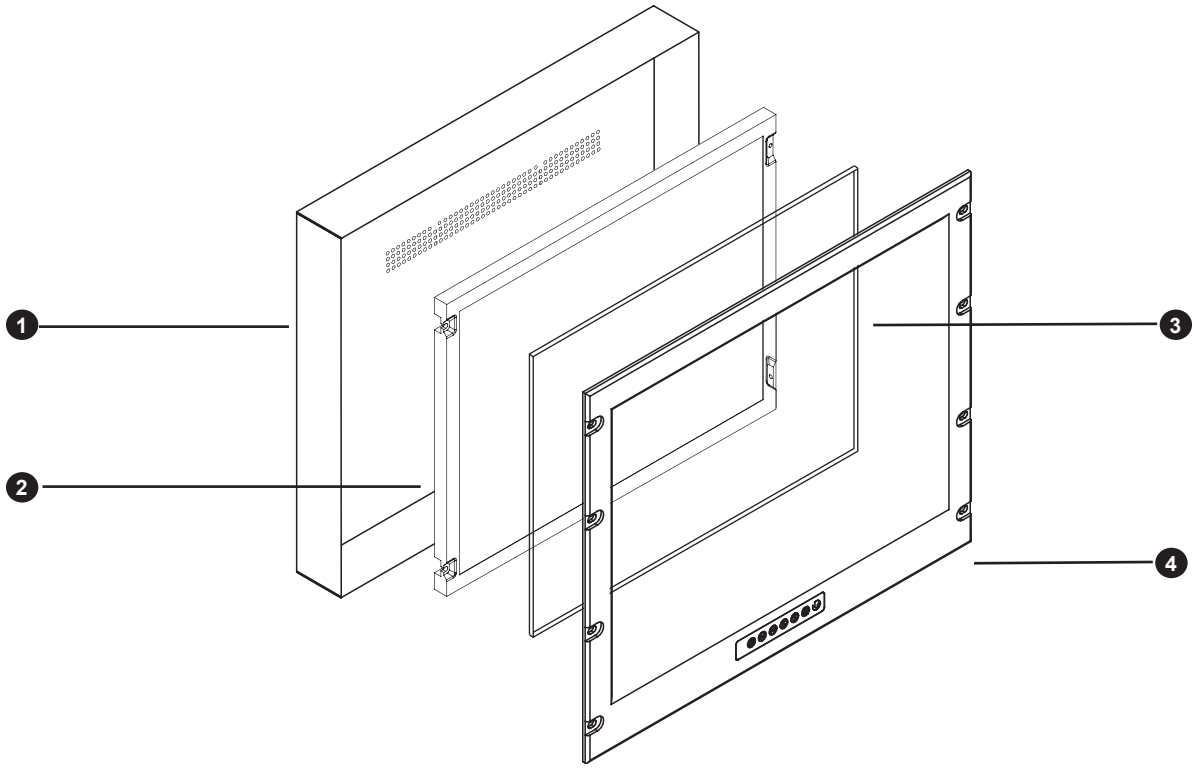
Model	-15TCB / -15TCS	-17TCB / -17TCS	-19TCB / -19TCS	-20TCB / -20TCS
Screen size	15"	17"	19"	22"
Interface	USB / serial			
Optical transmittance	93% ± 2%			
Surface hardness	>9H Surface hardness, withstand over 300 million touches			
Operating system	Windows 98 / 2000 / ME / XP / NT / CE, DOS, Linux			

Please Note:

- USB touchscreen package includes 1 x 6ft USB cable, quick reference guideline and CD disc
- Serial touchscreen package includes 1 x 6ft serial cable, quick reference guideline and CD disc
- For detailed information, please refer to the attached CD disc
- As the touchscreen unit is not made of toughened glass, please handle it carefully
- Touchscreen in other brands are available on request

9.5 Front NEMA 4 / IP65 Option

MP-15, MP-17, MP-19 & MP-20



① Rear case

② LCD panel

③ 4mm protective glass (Front NEMA 4 / IP65 protection)

④ Aluminum front panel

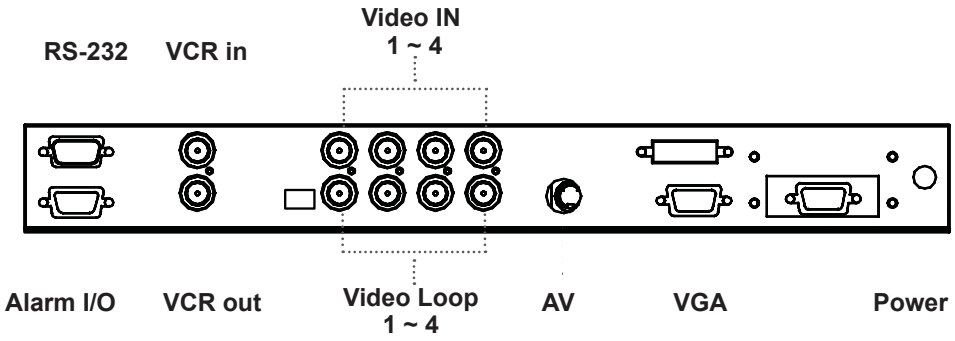
Please Note:

■ 4mm thickness of protective glass is not reinforced -- please handle it carefully

9.6 Quad Display Option

Chapter 9

Specifications



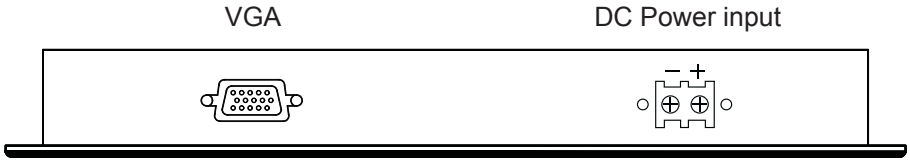
Item		Description	
Model Number		QD (NTSC)	QD (PAL)
Number of Color		16.7 M	16.7 M
Imaging System		NTSC	PAL
Resolution		1024 x 525	1024 x 625
Refresh Rate		60	50
Video Input	Camera Input	1.0 Vpp, 75 Ohm x 4	
	VCR Input	1.0 Vpp, 75 Ohm x 1	
Video Output	Live Monitor	1.0 Vpp, 75 Ohm x 1	
	Loop Through Out	1.0 Vpp, 75 Ohm x 4	
	VCR Output	1.0 Vpp, 75 Ohm x 1	
Auto Gain Control		Yes	
Time / Date		Yes	
On Screen Display		Yes	
Camera Title		8 Character Title	
Display Format	2 x Zoom On Playback	Yes	
	QUAD	Yes	
	FULL	Yes	
	SEQUENCY	Yes	
Dwell Time		0 to 99 Sec Adjustable	
Built-in Buzzer		Yes	
Key Lock		Yes	

Please Note:

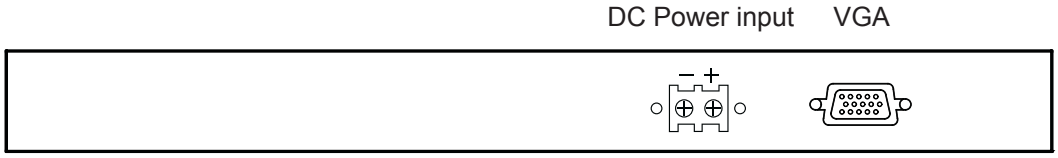
- For more information on Quad Display, please refer to the Quad Display User Manual
- Quad Display is not available on Sun-specific models

9.7 DC Power Options

MP-15, MP-17, MP-19 & MP-20
SMP-17, SMP-19 & SMP-20



MD-20 & SMD-20
MD-15, MD-17, MD-19, SMD-17 & SMD-19
MDS-15, MDS-17 & MDS-19



Model	12V	24V	48V
Input rating			
Input voltage:	12-Volt	24-Volt	48-Volt
Input range:	9 ~ 18V	18 ~ 36V	36 ~ 75V
Input current			
- No load	50 mA	50 mA	50 mA
- Full load	4950 mA	2450 mA	1220 mA
Output rating			
Output voltage:	12-Volt	12-Volt	12-Volt
Output current:	4.16A	4.16A	4.16A
Efficiency	84%	85%	85%

Please Note:

- Power cabling is not included with DC Power option
- The depth of MDS-15 / 17 / 19 will be extended from 480mm (18.9") to 530mm (20.9")

10.1 LCD Specifications

Chapter 10

MPW-19, MPW-22 & MDW-19

Item	Description		
LCD Manufacturer	SAMSUNG		
	MDW-19	MPW-19	MPW-22
Diagonal Size	Wide 19" TFT	Wide 19" TFT	Wide 22" TFT
Max. Resolution	1440 x 990	1440 x 990	1680 x 1050
Brightness (cd/m²)	300	300	300
Color Support	16.7 M	16.7 M	16.7 M
Contrast Ratio (typ.)	1000:1	1000:1	1000:1
Viewing Angle (H/V)	160˚ x 160˚	160˚ x 160˚	160˚ x 160˚
Display Area (mm)	408 x 255	408 x 255	474 x 296
Tr Response Time (ms)	1.3	1.3	3.6
LCD Panel MTBF (hrs)	50,000	50,000	50,000
VGA Signal Input	Analog RGB, 0.7Vp-p		
Sync. Type	Separate H/V, Composite, SOG		
Resolution	720 x 400, 70 Hz		
	640 x 480, 60/ 70/ 72/ 75 Hz		
	800 x 600, 60/ 70/ 72/ 75 Hz		
	1024 x 768, 60/ 70/ 75 Hz		
	1152 x 864, 60/ 70/ 75 Hz		
	1280 x 720, 60/ 70/ 75 Hz		1280 x 720, 60/ 75 Hz
	1280 x 1024, 60/ 70/ 75 Hz		1280 x 1024, 60/ 75 Hz
	1440 x 900, 60 Hz		1680 x 1050, 60 Hz
Plug & Play DDC	EDID 1.3		
Connector	DB-15 connector		
Power Input	Auto-sensing 100 to 240VAC, 50 / 60Hz		
Power Consumption	Max. 48 Watt, Standby 5 Watt		
Compatibility	Multi-platform - Mix PCs, SUNs, IBMs, HPs & DELLs.		

Options

Graphic Input	DVI-D, BNC, S-Video & Quad display input	
DC Power	DC power input with 12V, 24V, 48V selection	
Touchscreen		Resistive or capacitive
AU	35mm audio plug	
NEMA 4 / IP65	4mm thickness of protective glass	

Environmental

Operation	0˚ to 50˚C Degree
Storage	-5˚ to 60˚C Degree
Relative Humidity	5~90%, non-condensing
Shock	10G acceleration (11ms duration)
Vibration	5~500Hz 1G RMS random vibration

10.1 LCD Specifications

Chapter 10

MD-20
MDS-15, MDS-17 & MDS-19

MD-15, MD-17, MD-19
MP-15, MP-17, MP-19 & MP-20

Item	Description			
LCD Manufacturer	-	SAMSUNG		LG Life's Good
Diagonal Size	15" TFT	17" TFT	19" TFT	20" TFT
Max. Resolution	1024 x 768	1280 x 1024	1280 x 1024	1600 x 1200
Brightness (cd/m²)	250	250	250	300
Color Support	16.2 M	16.7 M	16.7 M	16.7 M
Contrast Ratio (typ.)	700:1	1000:1	1000:1	800:1
Viewing Angle (H/V)	160° x 130°	160° x 160°	160° x 160°	178° x 178°
Display Area (mm)	304 x 228	338 x 270	376 x 301	408 x 306
Tr Response Time (ms)	5.7	1.3	1.3	7
LCD Panel MTBF (hrs)	30,000	50,000	50,000	45,000
VGA Signal Input	Analog RGB, 0.7Vp-p			
Sync. Type	Separate H/V, Composite, SOG			
Resolution	640 x 400, 70 Hz	-		
	720 x 400, 70 Hz			
	640 x 480, 60/ 70/ 72/ 75 Hz			
	800 x 600, 60/ 70/ 72/ 75 Hz			
	1024 x 768, 60/ 70/ 72/ 75 Hz	1024 x 768, 60/ 70/ 75 Hz		
	-	1152 x 864, 60/ 70/ 75 Hz		
	-	1280 x 720, 60/ 70/ 75 Hz	1280 x 720, 60/ 75 Hz	
	-	1280 x 1024, 60/ 70/ 72/ 75 Hz	1280 x 1024, 60/ 70/ 75 Hz	
	-		1400 x 1050, 60 Hz	
	-		1600 x 1200, 60 Hz	
Plug & Play DDC	EDID 1.3			
Connector	DB-15 connector			
Power Input	Auto-sensing 100 to 240VAC, 50 / 60Hz			
Power Consumption	Max. 48 Watt, Standby 5 Watt			
Compatibility	Multi-platform - Mix PCs, SUNs, IBMs, HPs & DELLs.			
Regulation Approval	FCC, CE, RoHS			

Options

Graphic Input	DVI-D, BNC, S-Video & Quad display input
DC Power	DC power input with 12V, 24V, 48V selection
Touchscreen	Resistive or capacitive
AU	35mm audio plug
NEMA 4 / IP65	4mm thickness of protective glass

Environmental

Operation	0° to 50°C Degree
Storage	-5° to 60°C Degree
Relative Humidity	5~90%, non-condensing
Shock	10G acceleration (11ms duration)
Vibration	5~500Hz 1G RMS random vibration

10.1 LCD Specifications

Chapter 10

SMD-20
SMP-17, SMP-19 & SMP-20

SMD-17 & SMD-19

Item	Description		
Form Factor	1U rack mounting on slide-out rails		
Diagonal Size	17" TFT	19" TFT	20" TFT
Resolution	1152 x 900 (Direct)	1152 x 900 (Direct)	1152 x 900 (Direct)
	1280 x 1024 (Native)	1280 x 1024 (Native)	1600 x 1200 (Native)
Brightness (cd/m²)	250	250	300
Color Support	16.7 M	16.7 M	16.7 M
Contrast Ratio (typ.)	1000:1	1000:1	800:1
Viewing Angle (H/V)	160˚ x 160˚	160˚ x 160˚	178˚ x 178˚
Display Area (mm)	338 x 270	376 x 301	408 x 306
Tr Response Time (ms)	1.3	1.3	7
LCD Panel MTBF (hrs)	50,000	50,000	45,000
VGA Signal Input	Analog RGB, 0.7Vp-p		
Sync. Type	Separate H/V, Composite, SOG		
Resolution	720 x 400, 70 Hz		
	640 x 480, 60 /70 /72 /75 Hz		
	800 x 600, 60 /70 /72 /75 Hz		
	1024 x 768, 60 /70 /75 Hz		
	1152 x 864, 60 /70 /75 Hz		
	1280 x 720, 60 /70 /75 Hz		1280 x 720, 60 /75 Hz
	1280 x 1024, 60 /70 /72 /75 Hz		1280 x 1024, 60 /70 /75 Hz
	-		1400 x 1050, 60 Hz
	-		1600 x 1200, 60 Hz
Plug & Play DDC	EDID 1.3		
Connector	DB-15 connector		
Power Input	Auto-sensing 100 to 240VAC, 50 / 60Hz		
Power Consumption	Max. 48 Watt, Standby 5 Watt		
Compatibility	Multi-platform - Mix PCs, SUNs, IBMs, HPs & DELLs.		
Regulation Approval	FCC, CE, RoHS		

Options

Graphic Input	DVI-D input
DC Power	DC power input with 12V, 24V, 48V selection

Environmental

Operation	0˚ to 50˚C Degree
Storage	-5˚ to 60˚C Degree
Relative Humidity	5~90%, non-condensing
Shock	10G acceleration (11ms duration)
Vibration	5~500Hz 1G RMS random vibration

11.1 Troubleshooting

Chapter 11

1. How do I adjust the resolution?

To change monitor resolution, click Start -> Control Panel -> Display. Select Setting tab to adjust the monitor resolution in Desktop Area. The available resolutions, "640 x 480", "800 x 600", "1024 x 768", "1152 x 864", "1280 x 1024", are determined by the display card in your computer.

2. Is an interference signal appearing on the LCD normal when shutting down the computer?

In rare cases, interference may appear on the monitor. This may be caused by signal rate of VGA card and is considered normal. The image quality can be improved by adjusting the phase or pixel rate automatically or manually.

3. The membrane power light is not lit?

Press the power On / Off on LCD membrane to check if the monitor is in the ON mode.
Check the power cord is properly connected to the LCD keyboard drawer and power outlet.

4. Screen image is not centered or sized properly

Press the button for two seconds to automatically adjust the image.
Adjust the H-position and V-position settings via On-screen menu.

For SMD Series Sun-Specific LCD Drawer

1. How can I adjust the monitor resolution to 1152 x 900 for SUN Micro systems?

The S solution LCD drawer will automatically detect the 1152 x 900 resolution, so no user configuration should be necessary.

2. How do I adjust the resolution in MS Windows operating system?

To change monitor resolution, click Start -> Control Panel -> Display. Select Setting tab to adjust the monitor resolution in Desktop Area. The available resolutions, "640 x 480", "800 x 600", "1024 x 768", "1152 x 864", "1280 x 1024", are determined by the display card in your computer.

6. Is the LCD drawer hot-pluggable?

The LCD drawer is hot-pluggable, but components of connected devices, such as the servers and KVMs, may not be hot-pluggable. We suggest turning off the power to all devices before connecting them. Apply power to connected devices again only after the LCD receives power.

12.1 Dimensions

Chapter 12

MPW-19, MPW-22 & MDW-19
MP-15, MP-17, MP-19 & MP-20
SMP-17, SMP-19 & SMP-20

Model	Product Dimension (W x D x H)		Packing Dimension (W x D x H)	Net Weight	Gross Weight
MPW-19	480 x 57.5 mm 18.9 x 2.3"	7U	565 x 495 x 156 mm 22.2 x 19.5 x 6.1"	8 kg 18 lb	10 kg 22 lb
MPW-22	500.4 x 59.1 mm 19.7 x 2.3"	8U	565 x 539 x 156 mm 22.2 x 21.2 x 6.1"	12 kg 26 lb	15 kg 33 lb
MDW-19	442 x 650 x 44 mm 17.4 x 25.6 x 1.73"		581 x 755 x 172 mm 22.9 x 29.7 x 6.8"	13 kg 29 lb	18 kg 40 lb
MP-15	480 x 52 mm 18.9 x 2"	6U	565 x 406 x 156 mm 22.2 x 16 x 6.1"	6 kg 13 lb	8 kg 18 lb
MP-17	480 x 54 mm 18.9 x 2.1"	7U	565 x 450 x 156 mm 22.2 x 17.7 x 6.1"	7 kg 15 lb	8.5 kg 19 lb
MP-19	480 x 53 mm 18.9 x 2.1"	8U	565 x 495 x 156 mm 22.2 x 19.5 x 6.1"	8 kg 18 lb	10 kg 22 lb
MP-20	480 x 64 mm 18.9 x 2.5"	9U	565 x 539 x 156 mm 22.2 x 21.2 x 6.1"	12 kg 26 lb	15 kg 33 lb
SMP-17	480 x 57 mm 18.9 x 2.2"	7U	565 x 450 x 156 mm 22.2 x 17.7 x 6.1"	7 kg 15 lb	8.5 kg 19 lb
SMP-19	480 x 57 mm 18.9 x 2.2"	8U	565 x 495 x 156 mm 22.2 x 19.5 x 6.1"	8 kg 18 lb	10 kg 22 lb
SMP-20	480 x 67 mm 18.9 x 2.6"	9U	565 x 539 x 156 mm 22.2 x 21.2 x 6.1"	12 kg 26 lb	15 kg 33 lb

12.1 Dimensions

Chapter 12

MD-20
SMD-20
MD-15, MD-17, MD-19
SMD-17 & SMD-19
MDS-15, MDS-17 & MDS-19

Model	Product Dimension (W x D x H)	Packing Dimension (W x D x H)	Net Weight	Gross Weight
MD-20	442 x 650 x 44 mm 17.4 x 25.6 x 1.73"	581 x 755 x 172 mm 22.9 x 29.7 x 6.8"	14 kg 31 lb	19 kg 42 lb
SMD-20	442 x 650 x 44 mm 17.4 x 25.6 x 1.73"	581 x 755 x 172 mm 22.9 x 29.7 x 6.8”	14 kg 31 lb	19 kg 42 lb
MD-15	442 x 550 x 44 mm 17.4 x 21.6 x 1.73"	581 x 705 x 175 mm 22.9 x 27.8 x 6.9"	10 kg 22 lb	15 kg 33 lb
MD-17	446 x 600 x 44 mm 17.6 x 23.6 x 1.73"	581 x 755 x 172 mm 22.9 x 29.7 x 6.8"	12 kg 26 lb	17 kg 37 lb
MD-19	446 x 600 x 44 mm 17.6 x 23.6 x 1.73"	581 x 755 x 172 mm 22.9 x 29.7 x 6.8"	13 kg 29 lb	18 kg 40 lb
SMD-17	446 x 600 x 44 mm 17.6 x 23.6 x 1.73"	581 x 755 x 172 mm 22.9 x 29.7 x 6.8”	12 kg 26 lb	17 kg 37 lb
SMD-19	442 x 600 x 44 mm 17.4 x 23.6 x 1.73"	581 x 755 x 172 mm 22.9 x 29.7 x 6.8"	13 kg 29 lb	18 kg 40 lb
MDS-15	442 x 440 x 44 mm 17.4 x 17.3 x 1.73"	584 x 601 x 169 mm 23 x 23.7 x 6.7"	10 kg 22 lb	15 kg 33 lb
MDS-17	446 x 480 x 44 mm 17.6 x 18.9 x 1.73"	584 x 641 x 169 mm 23 x 25.2 x 6.7"	12 kg 26 lb	17 kg 37 lb
MDS-19	446 x 480 x 44 mm 17.6 x 18.9 x 1.73"	584 x 641 x 169 mm 23 x 25.2 x 6.7"	13 kg 29 lb	18 kg 40 lb

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